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ABSTRACT

The Navy has long been aware of a literacy gap existing between the level at which Navy technical documents are written and the reading comprehension level of enlisted personnel. In order to provide guidance in the restructuring of text and the limiting of vocabulary to reduce this gap, the Training Analysis and Evaluation Group developed the Computer Readability and Editing System (CRES). This system not only analyzes the sentence construction of various reading materials and determines the reading grade level, but it also provides suggestions for simplification and clarification of the material. Intended to serve as a programmer's reference guide to assist in the implementation, maintenance, and modification of CRES, as well as an aid in its conversion to other languages and machines, this report is divided into two sections: (1) a brief description of the CRES and its major options and sub-options, and (2) a detailed description of the individual programs comprising the system and a commented listing for each program. Eight related reports are listed as references, and appendices include word list definitions and the control file describing each word list data file, a list of programs and data files included in CRES, sample flowcharts for the creation and maintenance of the word lists, and a sample text passage and the output obtained from a CRES analysis of the text. (DJR)

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TECHNICAL REPORT 86-001

COMPUTER READABILITY AND EDITING SYSTEM (CRES) PROGRAMMER'S REFERENCE MANUAL

JANUARY 1986

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TECHNICAL REPORT 86-001

COMPUTER READABILITY AND EDITING SYSTEM (CRES) PROGRAMMER'S REFERENCE MANUAL

JANUARY 1986

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The Navy has long been aware of a literacy gap existing between the level at which Navy technical documents are written and the reading comprehension level of enlisted personnel (GAO 1977 and GAO 1979). In order to provide guidance in the restructuring of text and the limiting of vocabulary to reduce this gap, the Training Analysis and Evaluation Group developed the Computer Readability and Editing System (CRES), reported in TAEG Technical Report 83, published in 1980. This original system has been expanded and enhanced to create the current version of CRES. Much emphasis was placed on producing a system which is highly user-oriented and entirely menu-driven. The program software is written in Wang VS BASIC, and is designed to operate on a Wang VS100 system. It can also be transferred to any computer in the Wang VS Series.

This CRES has been distributed to various Navy and Air Force commands requesting the system, as well as to Government contractors (Continued on reverse)

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having a requirement for it. The purpose of this report is to provide a programmer's reference guide to assist in the implementation, maintenance, and modification of CRES at these facilities. It is also intended to serve as an aid in the conversion of CRES to other languages and machines.

ACKNOWLEDGEMENTS

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INTRODUCTION

BACKGROUND

The Navy has the responsibility of providing both general and specialized operation and maintenance training for their personnel. To impart the necessary information the Navy relies heavily on technical documents for training and for on the job maintenance functions. Two studies conducted by the General Accounting Office (GAO 1977 and GAO 1979) indicated much pertinent technical material is written at a higher reading grade level than enlisted personnel can comprehend. In an attempt to deal with this problem, the Chief of Naval Education and Training (CNET), in 1978, tasked the Training Analysis and Evaluation Group (TAEG) to undertake the development of the Computer Readability and Editing System (CRES).[1]

The CRES system analyzes the sentence construction of various reading materials and determines the reading grade level as defined by the Department of Defense Military Specification MIL-M-38784B. In addition, the system provides suggestions for simplification and clarification of the material. The original development and testing of the CRES, along with detailed examples of its use, are described in Development and Test of a Computer Readability Editing System (CRES) (Kincaid, Aagard, and O'Hara, 1980). This original development was done on a Wang 2200MVP computer.

In October 1983 a team was formed to continue this development, expanding the scope and improving the accuracy of the program. The new CRES was to be implemented on a Wang VS100 computer. This effort produced the current CRES; an updated, expanded, and enhanced version written in Wang VS BASIC. Figure 1 identifies key components of CRES and illustrates their interrelations.

PURPOSE

This report provides a detailed description of the organization of the VS BASIC version of CRES, including the various programs and data files comprising the system. Flowcharts are included for all systems. In the case of three categories of programs the flowcharts are essentially the same for the various CRES subsystems: those to create and maintain word lists, those to print the word lists, and those to print the word lists by specified attribute or combination of attributes. In these cases a single sample flowchart is provided for each genre. The intent of this documentation is to assist programmers in converting CRES from Wang VS BASIC to other computer languages or in the implementation of future modifications.

---

[1] CNET Code N-5 letter of 29 June 1978.

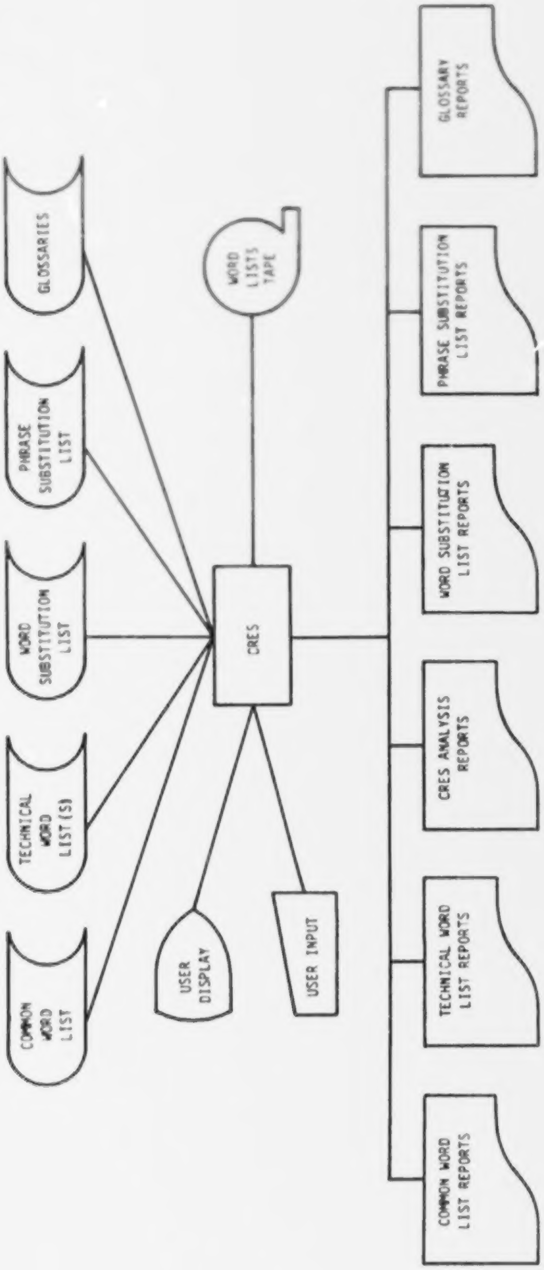
COMMON WORD LIST
TECHNICAL WORD LIST(S)
WORD SUBSTITUTION LIST
PHRASE SUBSTITUTION LIST
GLOSSARIES
USER DISPLAY
USER INPUT
CRES
WORD LISTS TAPE
COMMON WORD LIST REPORTS
TECHNICAL WORD LIST REPORTS
CRES ANALYSIS REPORTS
WORD SUBSTITUTION LIST REPORTS
PHRASE SUBSTITUTION LIST REPORTS
GLOSSARY REPORTS

Figure 1. CRES system overview.

ORGANIZATION OF THE REPORT

In addition to this introduction, the report is divided into two other sections and four appendices. The first section briefly describes the CRES and its major options and suboptions. The next section provides a detailed description of the individual programs comprising the system and a commented listing for each program. Appendix A contains the word list definitions and the control file describing each word list data file. Appendix B contains a list of all the programs and data files included in the CRES, along with their library and volume locations. Appendix C contains sample flowcharts for the programs to create and maintain the word lists, to print the word lists, and to print the word lists by a specified attribute or combination of attributes. Appendix D contains a sample text passage and the output obtained from a CRES analysis of the text.

OVERVIEW OF THE COMPUTER READABILITY AND EDITING SYSTEM

The CRES supports the generation of a readability analysis for a given text, the generation of editorial suggestions for simplifying and clarifying the text, the creation of a glossary of technical terms and their definitions for reference purposes, and the creation and maintenance of word and phrase lists to be used in the CRES analysis. Further information on the usage of CRES can be found in Computer Readability Editing System (CRES) for Writers and Editors (Kincaid, Pierce, in press).

SUBSYSTEMS

Figure 2 depicts the organization of the CRES and the interconnection of the various subsystems which is achieved through a chain of menus. The system is comprised of seven distinct subsystems:

1 - The Common Word List Subsystem
2 - The Technical Word List Subsystem
3 - The Word and Phrase Substitute Subsystem
4 - The Glossary Subsystem
5 - The Root Word Expansion Subsystem
6 - The Analysis Subsystem
7 - The Copy Word Lists to Tape Subsystem

The Common Word List Subsystem enables the user to create, modify, or print out the Common Word List. The Common Word List is a compilation of words which are considered familiar and which frequently occur in ordinary usage. These words are defined as "common". When text is analyzed, each word is checked against this list; words not appearing on the Common Word List are considered "uncommon" words and will be flagged as such. At the present time, the Common Word List is comprised of approximately 4000 root words and their expansions, yielding approximately 11,000 words. A list of all words contained in the Common Word List can be found in Word Lists to Limit Vocabulary in Technical Information (Kincaid, McDaniel, Pierce, 1985).

The Technical Word List Subsystem enables the user to create, modify, or print out the various technical word lists. A technical word list enables a user to specify certain technical words which, although uncommon in ordinary usage, are commonly encountered in a particular area. They should be considered common in any document pertaining to that area. In conducting a CRES analysis, the user is given the opportunity to specify up to seven different technical word lists. At the present time, the system includes Administrative/Clerical; Aircraft Equipment; Communication/Navigation; General Electronics; Hull, Mechanical, and Electrical; Propulsion Engineering; and Weapon System Control Technical Word Lists. Any or all of these, or any

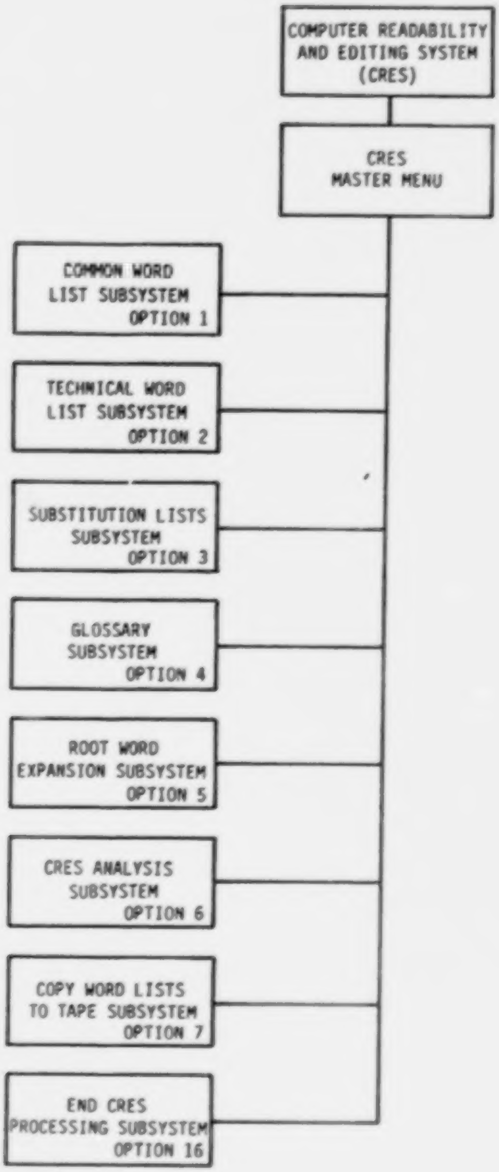
COMPUTER READABILITY AND EDITING SYSTEM (CRES)
CRES MASTER MENU
COMMON WORD LIST SUBSYSTEM OPTION 1
TECHNICAL WORD LIST SUBSYSTEM OPTION 2
SUBSTITUTION LISTS SUBSYSTEM OPTION 3
GLOSSARY SUBSYSTEM OPTION 4
ROOT WORD EXPANSION SUBSYSTEM OPTION 5
CRES ANALYSIS SUBSYSTEM OPTION 6
COPY WORD LISTS TO TAPE SUBSYSTEM OPTION 7
END CRES PROCESSING SUBSYSTEM OPTION 16

Figure 2. CRES system diagram.

additional list(s) created by the user through the Technical Word List Subsystem, may be specified for inclusion in an analysis. Any lists specified are considered as supplements to the Common Word List for the purposes of that analysis, and any words appearing on them will be considered to be "common". A copy of each of the technical word lists has been published (Kincaid, et al, 1985).

The Word and Phrase Substitute Subsystem enables the user to create, modify, or print out the Word Substitution List or the Phrase Substitution List. These lists provide up to two suggested substitutes for the given word or phrase. If requested by the user, these suggested substitutes will be provided in the CRES analysis.

The Glossary Subsystem enables the user to create, modify, or print out any glossaries desired. There are two different types of glossaries treated in this system, which are useful adjuncts to the text when writing technical material. The first is an Abbreviation-Acronym Glossary, which contains various abbreviations, acronyms, and their definitions. This glossary is consulted by the Analysis Subsystem. The second is a Technical Glossary, which is comprised of various technical terms and their definitions. This is included exclusively for the user's reference and is not utilized by any other part of the CRES.

The Root Word Expansion Subsystem enables the user to expand any root word as required and to merge these expansions into the Common Word List or into a technical word list.

The Analysis Subsystem enables the user to perform a CRES analysis of any VS word processing document. The user has the capability to specify various options, including calculation of the reading grade level and the flagging of various characteristics which raise the reading grade level.

The Copy Word Lists to Tape Subsystem enables the user to transfer to tape any or all of the CRES word lists.

WORD LISTS

The CRES Analysis Subsystem depends on many word lists. Appendix A contains the data file definition and the control file for each of these lists. The following is a brief discussion of the different types of word lists, and the naming conventions used:

CMNWDLST :	This is the Common Word List. This list contains the words considered to be "common" words, (familiar and frequently occurring), with their parts of speech and other pertinent information. There are approximately 11,000 entries in the current list.

WRDSBLST : This is the Word Substitution List. This list consists of words considered to be awkward or unnecessarily difficult, with one or two suggested substitutes for each word. A substitute can be any word or phrase of 20 characters or less.

PHRSBLST : This is the Phrase Substitution List. This list consists of phrases considered to be awkward or unnecessarily difficult, with one or two suggested substitutes for each phrase. A substitute can be any word or phrase of 24 characters or less.

ABBRELST : This is a list of common abbreviations and acronyms, and their definitions.

GLOSSARY : This is an optional file used to contain any desired words and their definitions. It can be printed out for reference, but it is not utilized in the analysis.

In the development of CRES, there were seven different technical word lists established for testing and evaluation. Each technical word list contains words that, while they might be unusual to a novice, represent common terminology to someone more familiar with the subject area. These words would not be flagged as uncommon if the technical word list containing them is specified for use in the analysis. The lists provided are as follows:

ADMCLER : Administrative and Clerical Word List (291 root words, 607 total words)

AIREQUI : Aircraft Equipment Word List (189 root words, 367 total words)

COMMNAV : Communications and Navigation Word List (413 root words, 770 total words)

GENELCT : General Electronics Word List (359 root words, 669 total words)

HMELCT : Ships' Mechanical and Electrical Word List (471 root words, 919 total words)

PROPENG : Propulsion Engineering Word List (443 root words, 885 total words)

WSCONT : Weapon Systems Control Word List (375 root words, 885 total words)

The CRES system supports the maintenance of existing lists, and the creation of new lists where required. Each installation is encouraged to develop its own word lists, as well as to modify and use the seven lists provided.

INSTALLATION AND OPERATION

The CRES is designed to be implemented on the Wang VS system, running on Wang Operating System Release 5.03.10A or later. It requires a standard VS configuration, including a workstation, line printer, and disk drive with at least 5MB of disk storage.

In order to run the CRES, certain Wang utilities are required. The object code for these programs must be placed in library @SYSSAV@ on the volume where the CRES system resides. The following is a list of the required utilities:

DISMOUNT
DISPLAY
EXTRACT
LINK
MOUNT
READFDR
READVTOC
SCRATCH

In addition, the object code for the word processing subroutine program, WPSBRTNB, must be placed in library @LINKLIB on the volume where CRES resides.

At the time of installation, it is necessary for a programmer to provide the name of the volume where the CRES will reside. The following steps are required:

1 - Edit program CRES in library CRES@PRC on the desired volume name.

2 - On line number 2000, the variable &CARVOL is currently initialized to CRES00. This initial value must be changed to the desired volume name for the CRES volume.

3 - After this change has been made, the input file (filename CRES in library CRES@PRC on the CRES volume) must be replaced with the edited file.

To operate the CRES, run filename CRES in library CRES@PRC on the volume on which CRES resides. This produces the CRES Master Menu, from which any subsystem can be selected. (See Figure 2.) It is advisable to establish a logon procedure to run CRES, and to assign this logon procedure to those users who will be running the system.

Detailed instructions for the operation of the CRES can be found in the Computer Readability and Editing System (CRES): User's Reference Manual (S. R. Schalow and J. E. Mears, in press).

CRES ANALYSIS SUBSYSTEM CONVENTIONS

The CRES Analysis Subsystem will perform a CRES analysis on any text that is in word processing document format. Any particular portion of text in the document to be excluded from the analysis must be surrounded by the characters "@@". An "@@" sign must immediately precede the text to be excluded, and another "@@" sign must immediately follow, signaling the analysis to resume.

The Analysis Subsystem supports a defaults file for each user. This defaults file holds the names of technical word lists to be used (displayed on the Technical File Selection Screen) and analysis options selected (displayed on the Option Selection Screen) for each user. After the defaults file is established for a particular user, the analysis program is initialized to that user's defaults on subsequent analyses. If the defaults are not satisfactory, the user can change them for any particular session when running an analysis. If a defaults file does not already exist for a given user, the Analysis Subsystem is designed to create one, which will contain the options selected by the user for the first CRES analysis performed. The filename is formed by the User ID concatenated with the string "DFLTS", and is stored in library CRES@DAT. The user can permanently change the defaults by scratching the defaults file. The program will then recreate the file in the next analysis run, using the new options selected for future defaults.

The system can support multiple users although, if multiple analyses are being run, each analysis must be examining a different document. To avoid the possibility of more than one user accessing a word simultaneously during maintenance of the word lists, a protection system has been implemented. Protection bytes are set in the record of a word when it is called up for editing. If another user tries to access the word while the protect bytes are set, a message will be presented to this effect. When the editing of the word has been completed, the bytes are reset to zero. This process is ordinarily transparent to the user. However, in the case of a system crash or a power failure, it would be possible for the protect bytes to remain set. Should this happen, capability has been provided to reset the protect bytes by use of the appropriate option on the editing subsystem menu.

The following section of this manual provides the detailed descriptions and listings of the programs in the system.

THE COMPUTER READABILITY AND EDITING SYSTEM (CRES)

This section contains the listings, including comments, for the programs comprising the CRES and necessary explanatory notes. Flowcharts are included with specific programs, except in the case of programs to create and maintain a word list, to print a word list, or to print a word list by attribute. Sample flowcharts for these three types of programs are included in appendix C.

The programs are written primarily in VS BASIC, with the exception of the menus. Those are written in VS Procedure Language. A number of the CRES programs have occasion to call Wang VS utility programs, such as "DISMOUNT", "DISPLAY", "EXTRACT", "LINK", "MOUNT", "READFDR", "READVTOC", and "SCRATCH". The code for these utilities is only available from Wang Laboratories, Incorporated, and no discussion of them can be provided in this document.

The programs contained in this section are organized in the same order as in the Master Menu.

MASTER MENU (CRES)

CRES in library CRES@PRC is the Procedure Language menu routine that serves as the driver for the entire CRES system. It enables the user to select by PF key among options to enter the Common Word List Subsystem, the Technical Word List Subsystem, the Substitution Lists Subsystem, the Glossary Subsystem, the Analysis Subsystem, and the Copy Word Lists to Tape Subsystem, or to end CRES processing.

A complete listing follows.

```
Wang VS Integrated Editor - Version  6.10.00       15:59 09/18/84    Page      1
Input File is CRES     in Library CRES@PRC on Volume CRES00

*                                                                     BP  000100
        PROCEDURE   CRES MASTER MENU                                  RT  000200
*       AUTHOR      ROSE TANK                                         RT  000300
*       DATE        10/06/83                                          RT  000400
*                                                                     BP  000500
*       Abstract: This procedure is the CRES MASTER MENU .            RT  000600
*                 It allows the user to select and run any            RT  000700
*                 file option.                                        BP  000800
*                                                                     BP  000900
        DECLARE          &RNDOM   AS STRING  (1) INITIAL " "              001000
        DECLARE         &USERINPT AS INTEGER     INITIAL  0           BP  001100
        DECLARE       &OPTIONERR  AS STRING (79) INITIAL "        "   RT  001200
        DECLARE       &OPTIONERR2 AS STRING (79) INITIAL "        "   RT  001300
        DECLARE        &USERNAME  AS STRING (24) INITIAL "        "   BP  001400
        DECLARE          &ERRMSG  AS STRING (34) INITIAL "        "   BP  001500
        DECLARE          &RUNLIB  AS STRING  (8) INITIAL "        "   RT  001600
        DECLARE          &RUNVOL  AS STRING  (6) INITIAL "      "         001700
        DECLARE          &SUNLIB  AS STRING  (8) INITIAL "        "   RT  001800
        DECLARE          &SUNVOL  AS STRING  (6) INITIAL "      "     JM  001900
*                                                                     JM  001910
*  &CARVOL IS THE VARIABLE THAT NEEDS TO BE ALTERED IN LINE 2000.     JM  001920
*  REPLACE "CRES00" WITH THE NAME OF THE VOLUME AT YOUR INSTALLATION. JM  001930
*  DON'T FORGET TO REPLACE THE INPUT FILE (CRES IN CRES@PRC ON YOUR   JM  001940
*  VOLUME), WHICH NOW HAS YOUR VOLUME NAME INITIALLY.                 JM  001950
*                                                                     JM  001955
        DECLARE          &CARVOL  AS STRING  (6) INITIAL "CRES00"     JM  002000
*                                                                         002100
        DECLARE          &SINVOL  AS STRING  (6) INITIAL "      "         002200
        DECLARE          &SINLIB  AS STRING  (8) INITIAL "        "   RT  002300
        DECLARE          &SOTVOL  AS STRING  (6) INITIAL "      "         002400
        DECLARE          &SOTLIB  AS STRING  (8) INITIAL "        "   RT  002500
        DECLARE          &SRNLIB  AS STRING  (8) INITIAL "        "   RT  002600
        DECLARE          &SRNVOL  AS STRING  (6) INITIAL "      "         002700
        DECLARE          &WRKVOL  AS STRING  (6) INITIAL "      "         002800
        DECLARE          &SPOLIB  AS STRING  (8) INITIAL "        "   RT  002900
        DECLARE          &SPOVOL  AS STRING  (6) INITIAL "      "         003000
*                                                                         003100
     EXTRACT  &SRNLIB = RUNLIB, &SRNVOL=RUNVOL, &SINLIB=INLIB,        RT  003200
          &SINVOL = INVOL, &SOTVOL = OUTVOL, &SOTLIB=OUTLIB,              003300
        &WRKVOL = WORKVOL, &SPOLIB = SPOOLIB, &SPOVOL = SPOOLVOL      JM  003400
                                                                      JM  003500
                                                                      RT  003600
        SET   INLIB=CRES@DAT,    INVOL=&CARVOL,     OUTLIB=CRES@SAV,  JM  003700
              OUTVOL=&CARVOL,    RUNLIB=CRES@PRC,   RUNVOL=&CARVOL,   JM  003800
              WORKVOL=&CARVOL,   SPOOLVOL=&CARVOL,  SPOOLIB=CRES@PRT  JM  003900
                                                                      JM  004000
                                                                      RT  004100
     EXTRACT  &USERNAME = USERNAME,&RUNLIB = RUNLIB, &RUNVOL=RUNVOL,  RT  004200
          &SUNLIB = OUTLIB, &SUNVOL = OUTVOL                              004300
*                                                                     BP  004400
GETUSERINPT:   PROMPT  PFKEY = &USERINPT    CENTER                    RT  004500
     DIM "CRES: Computer Readability & Editing System ","             RT  004600
 (Master Menu Screen)";                                               RT  004700
     DIM "============================================================ RT  004800
===================";                                                 RT  004900
     DIM " ";                                                         RT  005000
     DIM " Hello,",bright &USERNAME(1,*),".","  Welcome to the CRES Ma RT  005100
```

```
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Input File is CRES     in Library CRES@PRC on Volume CRES00

ster Menu, your guide through ";                                        RT  005200
      DIM " the Computer Readability & Editing System.";                RT  005300
      DIM " Select the", BRIGHT " PF key"," corresponding to your desir RT  005400
ed operation.";                                                         RT  005500
      DIM " ";" ";                                                      BP  005600
      DIM "                ",LINE "PF",DIM "  ",                        RT  005700
      LINE "          Operation              ";                         RT  005800
      DIM " ";                                                          BP  005900
      DIM "                 ",Bright "1"," - Create/Maintain Common Word RT  006000
 List";                                                                 RT  006100
      DIM "                 ",Bright "2"," - Create/Maintain Technical W RT  006200
ord List";                                                              RT  006300
      DIM "                 ",Bright "3"," - Create/Maintain Substitutio RT  006400
n Lists";                                                                   006500
      DIM "                 ",Bright "4"," - Maintain Glossaries";       RT  006600
      DIM "                 ",Bright "5"," - Expand Root Words";         RT  006700
      DIM "                 ",Bright "6"," - Analyze Word Processing Doc RT  006800
uments";                                                                    006900
      DIM "                 ",Bright "7"," - Copy Word Lists to Tape";   BP  007000
      DIM " ";                                                              007100
      DIM "                ",Bright "16"," - End CRES Processing";       RT  007200
      BRIGHT &OPTIONERR;                                                RT  007300
      BLINK  &OPTIONERR2;                                               RT  007400
*                                                                       BP  007500
         ASSIGN     &ERRMSG = " "                                       BP  007600
         ASSIGN     &OPTIONERR = " "                                    BP  007700
         ASSIGN     &OPTIONERR2 = " "                                   RT  007800
*                                                                       BP  007900
         IF    &USERINPT EQ 16                     GOTO USERLOG         BP  008000
         IF    &USERINPT EQ 32                     GOTO USERLOG         BP  008100
         IF    &USERINPT EQ 1                      GOTO RUNCMW          RT  008200
         IF    &USERINPT EQ 2                      GOTO RUNSWL          RT  008300
         IF    &USERINPT EQ 3                      GOTO RUNWSL          RT  008400
         IF    &USERINPT EQ 4                      GOTO RUNBCG          RT  008500
         IF    &USERINPT EQ 5                      GOTO RUNERW          RT  008600
         IF    &USERINPT EQ 6                      GOTO RUNATF          RT  008700
         IF    &USERINPT EQ 7                      GOTO RUNCTP          RT  008800
         IF    &USERINPT EQ 17                     GOTO RUNCMW          RT  008900
         IF    &USERINPT EQ 18                     GOTO RUNSWL          RT  009000
         IF    &USERINPT EQ 19                     GOTO RUNWSL          RT  009100
         IF    &USERINPT EQ 20                     GOTO RUNBCG          RT  009200
         IF    &USERINPT EQ 21                     GOTO RUNERW          RT  009300
         IF    &USERINPT EQ 22                     GOTO RUNATF          RT  009400
         IF    &USERINPT EQ 23                     GOTO RUNCTP          RT  009500
                                                                            009600
               ASSIGN &OPTIONERR = "I'm sorry, but your selected option RT  009700
 is not currently available."                                           RT  009800
               ASSIGN &OPTIONERR2 = "Please select another topic."      RT  009900
               GOTO GETUSERINPT                                         BP  010000
*                                                                       BP  010100
RUNCMW:     RUN CRES@CMW IN &RUNLIB ON &RUNVOL                          JM  010200
            IF  RUNCMW     EQ 0     GOTO GETUSERINPT                        010300
            GOTO USEREXIT                                               BP  010400
*                                                                       BP  010500
RUNSWL:     RUN CRES@SWL IN &RUNLIB ON &RUNVOL                          RT  010600
            IF  RUNSWL     EQ 0     GOTO GETUSERINPT                    RT  010700
            GOTO USEREXIT                                               BP  010800
```

```
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Input File is CRES      in Library CRES@PRC on Volume CRES00

*                                                                    BP  010900
RUNWSL:     RUN CRES@WSL IN &RUNLIB ON &RUNVOL                       RT  011000
            IF   RUNWSL    EQ 0     GOTO GETUSERINPT                 RT  011100
            GOTO USEREXIT                                            BP  011200
*                                                                    BP  011300
RUNERW:     RUN CRES@ERW IN &SUNLIB ON &SUNVOL                       RT  011400
            IF   RUNERW    EQ 0     GOTO GETUSERINPT                 RT  011500
            GOTO USEREXIT                                            RT  011600
*                                                                    RT  011700
RUNATF:     RUN ANALYSIS IN &SUNLIB ON &SUNVOL                       RT  011800
            IF   RUNATF    EQ 0     GOTO GETUSERINPT                 RT  011900
            GOTO USEREXIT                                            BP  012000
*                                                                    RT  012100
RUNCTP:     RUN CRESTAPE IN &SUNLIB ON &SUNVOL                       RT  012200
            IF RUNCTP      EQ 0     GOTO GETUSERINPT                 RT  012300
            GOTO USEREXIT                                            RT  012400
*                                                                    RT  012500
RUNBCG:     RUN CRES@BCG IN &RUNLIB ON &RUNVOL                       RT  012600
            IF   RUNBCG    EQ 0     GOTO GETUSERINPT                 RT  012700
            GOTO USEREXIT                                            BP  012800
*                                                                    RT  012900
RUNMTG:     RUN CRESTAPE IN &SUNLIB ON &SUNVOL                       RT  013000
            IF RUNMTG      EQ 0     GOTO GETUSERINPT                 RT  013100
            GOTO USEREXIT                                                013200
*                                                                    RT  013300
USEREXIT:       RETURN                                               BP  013400
*                                                                    RT  013500
USERLOG: SET    INLIB=&SINLIB,      INVOL=&SINVOL,     OUTLIB=&SOTLIB,    RT  013600
                OUTVOL=&SOTVOL,     RUNLIB=&SRNLIB,    RUNVOL=&SRNVOL,    RT  013700
                WORKVOL=&WRKVOL,    SPOOLVOL=&SPOVOL,  SPOOLIB=&SPOLIB    JM  013800
*                                                                    JM  013900
USERLOGOFF: RUN CRES@RND IN &SUNLIB ON &SUNVOL                       RT  014000
             IF USERLOGOFF EQ 1 GOTO RUNENA                              014100
             IF USERLOGOFF EQ 2 GOTO RUNENB                              014200
             IF USERLOGOFF EQ 3 GOTO RUNENC                              014300
             IF USERLOGOFF EQ 4 GOTO RUNEND                              014400
             IF USERLOGOFF EQ 5 GOTO RUNENE                              014500
             IF USERLOGOFF EQ 6 GOTO RUNENF                              014600
             IF USERLOGOFF EQ 7 GOTO RUNENG                              014700
             GOTO USEREND                                            RT  014800
*                                                                    RT  014900
RUNENA:     RUN CRSEN1 IN &SUNLIB ON &SUNVOL                         RT  015000
            GOTO USEREND                                                 015100
*                                                                    RT  015200
RUNENB:     RUN CRSEN2 IN &SUNLIB ON &SUNVOL                         RT  015300
            GOTO USEREND                                                 015400
*                                                                    RT  015500
RUNENC:     RUN CRSEN3 IN &SUNLIB ON &SUNVOL                         RT  015600
            GOTO USEREND                                                 015700
*                                                                    RT  015800
RUNEND:     RUN CRSEN4 IN &SUNLIB ON &SUNVOL                         RT  015900
            GOTO USEREND                                                 016000
*                                                                        016100
RUNENE:     RUN CRSEN5 IN &SUNLIB ON &SUNVOL                         RT  016200
            GOTO USEREND                                                 016300
*                                                                    RT  016400
RUNENF:     RUN CRSEN6 IN &SUNLIB ON &SUNVOL                         RT  016500
```

```
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Input File is CRES     in Library CRES@PRC on Volume CRES00

         GOTO USEREND
*                                                                RT
RUNENG:  RUN CRSEN7 IN &SUNLIB ON &SUNVOL                        RT
         GOTO USEREND
*
USEREND:
*                                                                RT
*
          RETURN CODE = 16
```

COMMON WORD LIST SUBSYSTEM

Create/Maintain Common Word List Menu (CRES@CMW)

CRES@CMW in library CRES@PRC is the Procedure Language menu routine that serves as the driver for the Create/Maintain Common Word List Subsystem. It enables the user to select by PF key among options to create/maintain the Common Word List, to print the Common Word List, to print the Common Word List by attribute, or to return to the CRES Master Menu.

A complete listing follows.

```
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Input File is CRES@CMW in Library CRES@PRC on Volume CRES01

*                                                                    RT  000100
        PROCEDURE   CRES COMMON WORD LIST MENU                       RT  000200
*       AUTHOR      ROSE TANK                                        RT  000300
*       DATE        10/06/83                                         RT  000400
*                                                                    RT  000500
*       Abstract: This procedure is a subsystem of CRES Master Menu  RT  000600
*                 (option 1 - Create/Maintain Common Word List).     RT  000700
*                 It allows the user to select and run any Common    RT  000800
*                 word list file option.                             RT  000900
*                                                                    RT  001000
        DECLARE       &USERINPT AS INTEGER     INITIAL  0            RT  001100
        DECLARE     &OPTIONERR  AS STRING (79) INITIAL "        "    RT  001200
        DECLARE     &OPTIONERR2 AS STRING (79) INITIAL "        "    RT  001300
        DECLARE      &USERNAME  AS STRING (24) INITIAL "        "    RT  001400
        DECLARE        &ERRMSG  AS STRING (34) INITIAL "        "    RT  001500
        DECLARE        &RUNLIB  AS STRING  (8) INITIAL "        "    JM  001600
        DECLARE        &RUNVOL  AS STRING  (6) INITIAL "      "      JM  001700
*                                                                    RT  001800
        EXTRACT &USERNAME=USERNAME, &RUNVOL=RUNVOL, &RUNLIB=OUTLIB   JM  001900
*                                                                    RT  002000
GETUSERINPT:   PROMPT  PFKEY = &USERINPT     CENTER                  RT  002100
     DIM "CRES: Common Word List Subsystem              (Common Word RT  002200
 List Menu Screen)";                                                 RT  002300
     DIM "============================================================ RT  002400
=================";                                                  RT  002500
     DIM " ";" ";                                                    RT  002600
     DIM "  The Common Word Lists will be used to perform the CRES ana RT  002700
lysis.";                                                                 002710
     DIM "  Use the appropriate",BRIGHT " PF key"," to select the desi RT  002800
red operation.";                                                     RT  002900
     DIM " ";" ";                                                    RT  003000
     DIM "                 ",LINE "PF",DIM "  ",                     RT  003100
     LINE                             "           Operation          RT  003200
    ";                                                                   003210
     DIM " ";                                                        RT  003300
     DIM "                  ",BRIGHT "1"," - Create/Maintain Common Word RT  003400
 List";                                                              RT  003500
     DIM "                  ",Bright "2"," - Print Common Word List";    RT  003700
     DIM "                  ",Bright "3"," - Print Common Words by Attri RT  003705
bute";                                                                   003805
     DIM " ";                                                        RT  004100
     DIM "                 ",Bright "16"," - Return to CRES Master Menu" RT  004200
;    DIM " ";" ";" ";                                                RT  004300
     BRIGHT &OPTIONERR;                                              RT  004400
     BLINK  &OPTIONERR2;                                             RT  004500
*                                                                    RT  004600
        ASSIGN     &ERRMSG = " "                                     RT  004700
        ASSIGN     &OPTIONERR = " "                                  RT  004800
        ASSIGN     &OPTIONERR2 = " "                                 RT  004900
*                                                                    RT  005000
        IF    &USERINPT EQ 16                   GOTO USEREXIT        RT  005100
        IF    &USERINPT EQ 32                   GOTO USEREXIT        RT  005200
        IF    &USERINPT EQ 1                    GOTO RUNCWL          RT  005300
        IF    &USERINPT EQ 2                    GOTO RUNPWL          RT  005500
        IF    &USERINPT EQ 3                    GOTO RUNPWA          RT  005505
        IF    &USERINPT EQ 17                   GOTO RUNCWL          RT  005910
        IF    &USERINPT EQ 18                   GOTO RUNPWL          RT  005930
```

```
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Input File is CRES@CMW in Library CRES@PRC on Volume CRES01

          IF    &USERINPT EQ 19                   GOTO RUNPWA         RT  005935
                                                                          005965
                ASSIGN &OPTIONERR = "I'm sorry, but your selected option RT  006000
 is not currently available."                                         RT  006100
                ASSIGN &OPTIONERR2 = "Please select another topic."   RT  006200
                GOTO GETUSERINPT                                      RT  006300
*                                                                     RT  006400
RUNCWL:     RUN CRES@CWL IN &RUNLIB ON &RUNVOL                        RT  006500
            IF   RUNCWL    EQ 0     GOTO GETUSERINPT                  RT  006600
            GOTO USEREXIT                                             RT  006700
*                                                                     RT  006800
RUNPWL:     RUN CRES@CWP IN &RUNLIB ON &RUNVOL                        RT  007300
            IF   RUNPWL    EQ 0     GOTO GETUSERINPT                  RT  007400
            GOTO USEREXIT                                             RT  007500
*                                                                     RT  007600
RUNPWA:     RUN CRES@CPA IN &RUNLIB ON &RUNVOL                        RT  008500
            IF RUNPWA      EQ 0     GOTO GETUSERINPT                  RT  008600
            GOTO USEREXIT                                             RT  008700
*                                                                     RT  008800
USEREXIT:       RETURN                                                RT  008900
```

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Create/Maintain Common Word List (CRES@CWL)

CRES@CWL in library CRES@SRC is the BASIC language program to create/maintain the Common Word List. The object language version is CRES@CWL in library CRES@SAV.

This program first allows the user to specify the word list to be created or maintained. Then the program enables the user to add, delete, or modify any given word. The program also provides for a protection override. The protection override option allows the user to clear the protect bytes, if for some reason these bytes have been left set incorrectly.

The protection capability was included to accommodate multiple users on the system. When a word on any of the CRES word lists is being modified by one user, the protection bytes for the word are set to that user's ID. No other user can access that word while the protection bytes are set. If an attempt is made by one user to access a word protected by another user, a message specifying the user and workstation protecting the word is displayed. When the word is released, the protection bytes are automatically cleared. To provide for the possibility of the system going down, a power failure, or an irregular exit leaving a word with its protection bytes still set, the program contains a protection override capability. For a given user to override the protection, either the word had to be protected under that user's ID, or the user protecting the word has to be no longer logged on to the computer.

The only characters accepted in the input word are the letters A through Z, ".", "-", and "'". There can be no embedded blanks. The data record for each word also contains information about the word's attributes: the part of speech (see table 1), the past participle flag, the negative flag, the form of the verb "to be" flag, and the root word flag[1]. The complete data record description is provided in appendix A.

A complete program listing follows. Appendix C contains a sample flowchart.

---

[1] A root word is defined, for the purposes of this program, as the form of a word which cannot be reduced any further; i.e., the singular, present tense word for nouns, verbs and adjectives. Most other parts of speech have only one form, which is considered the root word.

Table 1

Parts of Speech

	PART OF SPEECH	DEFINITION
(J)	Adjective	Modifies a noun or pronoun (e.g. pretty, little)
(j)	Adjective/verb	A word that may function as an adjective or verb (e.g. aged, dry, lean, open)
(A)	Adverb	Modifies a verb, adjective, or adverb (e.g. quickly, highly, very)
(a)	Adverb/verb	A word that may function as an adverb or verb (e. g. close, near, slow)
(B)	Article	A limiting adjective before a noun (e.g. a, the)
(C)	Conjunction	Links phrases or clauses (e.g. or)
(I)	Interjection	Used for simple exclamations (e.g. Oh!)
(N)	Noun	Indicates a person, place, or thing (e.g. woman, city, box)
(d)	Noun/adjective	A word that may function as a noun or adjective (e.g. metric, primitive)
(n)	Noun/verb	Word that may fuction as a noun or verb (e.g. abuse, dash, spot, wind)
(P)	Preposition	Expresses a relationship between two elements of a sentence (e.g. in, on, by, to)
(O)	Pronoun	Word that may be used as a substitute for a noun (e.g. I, you, she, what)
(V)	Verb	Denotes an action or occurrence (e.g. run, yawn, happen)

```
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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

000010 /*    This is the CRES COMMON WORD LIST MAINTENANCE PROGRAM      */  JM
000060 /*                                                              */  RT000020
000110 /*                AUTHORS: Rose Tank and John Mears              */  RT000030
000160 /*                Date:    October 12, 1983                      */  RT000040
000210 /*                                                              */  RT000050
000260 /*                                                              */  JM
000310 /* This program was developed to maintain the common word list.*/  RT
000360 /* It is designed to insert, delete, and modify any word in a  */  RT
000410 /* common word list (in the old CRES system, it was referred to*/  JM
000460 /* as the Master Word List). This subsystem has also been ex-  */  RT
000510 /* panded to handle multiusers by use of protection bytes set  */  JM
000560 /* in the record containing the word to be modified. There is  */  RT
000610 /* an override capability within the program itself that       */  JM
000660 /* operates on the condition that the user's id, which is ex-  */  JM
000710 /* tracted from the system, matches the protection bytes.  In  */  JM
000760 /* the case where the user attempts to modify a word currently */  RT
000810 /* controlled by another, a message is given identifying the   */  JM
000860 /* user and his/her workstation number.                        */  JM
000910 /*                                                              */  RT
000960 /* The record layout for the common word list is as follows:   */  RT
001010 /*                                                              */  RT
001060 /*  character position     identifier         variable name    */  RT
001110 /*           1-20       ==> word                 WORD$          */  RT
001160 /*           21         ==> part of speech       PRTOFSPC$      */  RT
001210 /*           22         ==> past participle      PPARTFL$       */  RT
001260 /*           23         ==> negative             NEGFL$         */  RT
001310 /*           24         ==> to be flag           TOBEFL$        */  RT
001360 /*           25         ==> filler                              */  RT
001410 /*           26         ==> root word            ROOTFL$        */  RT
001420 /*           27-28      ==> filler                              */  JM
001510 /*           29-31      ==> protection bytes     PROTECT$       */  JM
001560 /*           32-40      ==> filler for future additions         */  RT
001610 /*                                                              */  RT
001660 /* The words are stored in an indexed file with the word       */  JM
001710 /* acting as the key.                                           */  JM
001760                                                                     RT000120
001810                                                                     RT000130
001860 DIM WORD$20,IOBUFF$40,PRTOFSPC$1,PPARTFL$1,NEGFL$1,MWLFL$1          RT
001910 DIM TOBEFL$1,ROOTFL$1,PROTECT$3,F1$20,F2$10,MESING$14               JM
001960 DIM USER$3,USERNAME$24,FILE$8,LIB$8,IVOL$6                          RT
002010 DIM CODE$1,ER1$50,ITLE$21,ZAP$23,ER$65,X$1                          JM
002060 DIM E$1,G$1,L$1,V$1,B$1,C$1,D$1,PASSWRD$11                          JM
002110 DIM PF1$3,PF16$4,ENTER$5,HEADER$43,PF$4,OPER$12,TAB$3,BTAB$7        JM
002160 DIM MOD$15,EXP$30,DEF$7,A5$10,LEG$5,A7$7,P$(13)3,ITLE5$14           JM
002165 DIM ITLE6$10,FIL$16                                                 JM
002210 HEADER$        ="CRES COMMON WORD LIST MAINTENANCE SUBSYSTEM"       JM
002260 FIL$           ="Common Word List"                                  RT
002310 PF16$="PF16"                                                        RT
002360 TAB$="TAB"                                                          RT000340
002410 BTAB$="BACKTAB"                                                     RT000350
002460 EXP$="(Definition of Entries Screen)"                               JM
002510 ITLE$="Parts of Speech Codes"                                       JM
002560 ENTER$         ="ENTER"                                             RT
002610 WORDEQ$="word = "                                                     001230
002660 PF$=" PF "                                                          RT
002710 OPER$="   Operation"                                                  001250
002760 O$="1":T$="2":TH$="3":Q$="14":S$="16"                               JM
```

```
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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

002810 PF1$           ="PF1"                                              RT
002860 DEF$           ="CURRENT"                                          RT002760
002910 A5$            ="ATTRIBUTES"                                       RT002770
002960 LEG$           ="LEGAL"                                            RT002780
003010 A7$            ="ENTRIES"                                          RT002790
003015 P$(1)="(J)":P$(2)="(j)":P$(3)="(A)":P$(4)="(a)":P$(5)="(B)"        RT
003020 P$(6)="(C)":P$(7)="(I)":P$(8)="(N)":P$(9)="(n)":P$(10)="(P)"       RT
003025 P$(11)="(O)":P$(12)="(V)":P$(13)="(d)"                             RT
003030 ITLE5$        ="PART_OF_SPEECH"                                    JM
003035 ITLE6$        ="DEFINITION"                                        JM
003060                                                                    RT
003110 /* The following two lines are used as formats in the packing  */  JM
003160 /* and the unpacking of record fields                          */  RT
003165                                                                    JM
003210 F1$=HEX(A014A001A001A001A0010001A001A0010001A0030009)              RT
003260 F2$=HEX(001CA0030009)                                              RT
003310                                                                    RT
003360 /*  The extract subroutine is called to extract the user's ID */  JM
003410 /* from the system. This ID is used in setting up the protec- */  JM
003460 /* tion bytes in the record currently being modified.         */  JM
003510 CALL "EXTRACT" ADDR("ID",USER$,"IL",LIB$,"IV",IVOL$)               JM
003560    '                                                               RT
003610 /* The following code sets up a screen, which asks for the     */  RT000070
003660 /* name of the file containing the common word list that is   */  RT000080
003710 /* to be modified.  It also provides the opportunity to change */  RT000090
003760 /* the library and volume names which are set to the appro-    */  RT000100
003810 /* priate defaults.                                            */  RT
003815                                                                    JM
003860 FILE$="CMNWDLST"                                                   JM
003960 ER1$=" ":E$=HEX(8C):  G$,L$,V$=HEX(81)                             JM
004010 FILMNU:                                                              000500
004060 ACCEPT                                                          !   000510
004110        AT (01,01),                                              ! RT000520
004160 "CRES: Common Word List Maintenance Subsystem",                 ! RT000530
004210        AT (01,57),                                              ! RT000540
004260 "(File Selection Screen)",                                      ! RT000550
004310        AT (02,01),                                              ! RT000560
004360 "================================================================! RT000570
004410 ===============",                                               ! RT000580
004460        AT (04,14),                                              ! RT000590
004510 "Welcome to the",                                               !   000600
004560        AT (04,29), FAC(HEX(85)),                                ! JM
004610 HEADER$,                                                        ! RT000620
004660        AT (07,05),                                              ! RT
004710 "Please specify the",                                           ! RT
004760        AT (07,24), FAC(HEX(84)),                                ! RT
004810 FIL$,                                                           ! RT
004860        AT (07,41),                                              ! RT
004910 "you want to modify or create, if the",                         ! JM
004960        AT (08,05),                                              ! RT
005010 "default values are not satisfactory.      ",                   ! RT
005260        AT (13,30),                                              !   000770
005310 "File     =",                                                   ! RT000780
005360        AT (13,43),FAC(G$),FILE$        , CH(08),                ! RT000790
005410        RANGE ( "!     "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT000800
005460        AT (14,30),                                              ! RT000810
005510 "Library  =",                                                   ! RT000820
```

```
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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

005560        AT (14,43),FAC(L$), LIB$          , CH(08),               ! RT000830
005610        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT000840
005660        AT (15,30),                                               ! RT000850
005710 "Volume   =",                                                    ! RT000860
005760        AT (15,43),FAC(V$), IVOL$         , CH(06),               ! RT000870
005810        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT000880
005860        AT (18,24), FAC(E$), ER1$,                                ! RT
005862        AT (20,30),"Press",                                       ! RT
005864        AT (20,36),FAC(HEX(84)),                                  ! RT
005866 ENTER$,                                                          ! RT
005868        AT(20,42),                                                ! RT
005870 "to continue",                                                   ! RT
005872        AT (21,17),"Press",                                       ! RT
005874        AT (21,23), FAC(HEX(84)),                                 ! RT
005876 PF16$,                                                           ! RT
005878        AT (21,28),                                               ! RT
005880 "to return to the Common Word List Menu",                        ! RT
005890 KEYS(HEX(001020)),                                               ! JM
006110 ON (BIN(16)&BIN(32)) GOTO OUT,OUT                                  RT
006210                                                                    RT000960
006260 /* SET UP THE USER FILE BLOCK */                                     000970
006310                                                                    RT000980
006360 SELECT #1,"COMMON",VARC,INDEXED,RECSIZE=40,KEYPOS=1,KEYLEN=20,   ! RT000990
006410           IOERR GOTO IOERR1                                        RT001000
006460                                                                    RT001010
006510 /* SEE IF THE SPECIFIED FILE EXISTS                          */    RT
006560 /* Y- the file exists and the program may continue           */    JM
006610 /* N- the file doesn't currently exist, you may create one   */    RT
006660 /* V- the volume supplied doesn't exist or is not mounted    */    RT
006710 /* L- the library supplied doesn't exist in the volume given */    RT
006760 /* E- there is an I/O error in the file specified            */    RT
006810                                                                    RT001030
006860 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,ER1$)                         RT
006910 IF CODE$="Y" THEN RECCK                                            RT
006960 IF CODE$="N" THEN CREATE                                           RT
007010 IF CODE$="V" THEN GOSUB'7(STR(ER1$,3),HEX(81),HEX(81),HEX(91))     RT
007060 IF CODE$="L" THEN GOSUB'7(STR(ER1$,3),HEX(81),HEX(91),HEX(81))     RT
007110 IF CODE$="E" THEN GOSUB'7(STR(ER1$,3),HEX(81),HEX(81),HEX(81))     RT
007160 GOTO FILMNU                                                          001100
007210                                                                    RT001110
007260 /* The following screen allows the user to create an addition- */  JM
007310 /* al Common Word List, if the user so desires, OR return to    */  JM
007360 /* the previous screen to respecify necessary file information.*/  JM
007410                                                                    RT
007460 CREATE:                                                            RT
007510 ER1$=" "                                                           RT
007560 ACCEPT                                                           ! RT
007610 "CRES: Common Word List Maintenance Subsystem",                  ! RT
007660        AT (01,53),                                               ! RT
007710 "(Create File Option Screen)",                                   ! RT
007760        AT (02,01),                                               ! RT
007810 "================================================================! RT
007860 ================",                                               ! RT
007910        AT (06,08),                                               ! RT
007960 "The file you have selected does not currently exist in the libra! RT
008010 ry",                                                             ! RT
008060        AT (07,08),                                               ! RT
```

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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

008110 "and volume specified. For your convenience, the following are ",! JM
008160         AT (08,08),                                               ! RT
008210 "the parameters you submitted.",                                  ! RT
008260         AT (11,30),                                               ! RT
008310 "File   =",                                                       ! RT
008360         AT (11,40),FAC(HEX(85)),FILE$         , CH(08),           ! RT
008410         AT (12,30),                                               ! RT
008460 "Library=",                                                       ! RT
008510         AT (12,40), FAC(HEX(85)), LIB$         , CH(08),          ! RT
008560         AT (13,30),                                               ! RT
008610 "Volume =",                                                       ! RT
008660         AT (13,40), FAC(HEX(85)), IVOL$      , CH(06),            ! RT
008710         AT (17,15),                                               ! RT
008760 "To create a new file from these parameters, press",              ! JM
008810         AT (17,65), FAC(HEX(85)),  ENTER$        , CH(05),        ! RT
008860         AT (19,26),                                               ! RT
008910 "To select another file, press",                                  ! JM
008960         AT (19,56), FAC(HEX(85)), PF1$         , CH(03),          ! RT
009010 KEYS(BIN(0)&BIN(1)&BIN(17)),KEY(OPTION),                          ! RT
009060 ON (BIN(1)&BIN(17)) GOTO BLANKF,BLANKF                              JM
009110                                                                     RT
009160 /* Create the new file and insert a header record to identify it*/ RT
009210          OPEN NOGETPARM #1, OUTPUT, FILE= FILE$, LIBRARY=LIB$,    ! RT
009260          VOLUME= IVOL$, SPACE=1000                                  RT
009310          IOBUFF$= " COMMON WORDS"                                   RT
009360          WRITE #1, IOBUFF$                                          RT
009410          CLOSE #1                                                   RT
009460          GOTO ZZ1                                                   JM
009510                                                                     RT
009560 BLANKF:   FILE$=" ":GOTO FILMNU                                     RT
009610 /* Check the record size before opening the file to avoid       */ RT
009660 /* accidently resetting it.                                     */ RT
009710 RECCK: CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,0%,"RS",RSIZ%,RET%)     RT
009760       IF RSIZ%<>40 THEN WRGSIZE                                     RT
009810 ZZ1: OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,       ! JM
009860       VOLUME = IVOL$                                                 001150
010160                                                                     RT
010210       READ #1, IOBUFF$                                              RT
010260       IF IOBUFF$=" COMMON WORDS" THEN YES                           RT
010310       CLOSE #1                                                      JM
010360 WRGSIZE:  E$=HEX(94)                                                RT
010410       ER1$= "File type is wrong - please respecify."                RT
010460       GOTO FILMNU                                                   RT
010510 YES:                                                                RT
010560 /* This section of code generates another screen, which asks    */ JM
010610 /* for the particular word and its corresponding operation -     */ JM
010660 /* either insert word, delete word, or modify word. The user is */ RT001190
010710 /* also at this point given the option of returning to the      */ JM
010760 /* Common Word List Menu.                                       */ JM
010810                                                                     RT001220
010860 ER$,ER1$,WORD$ =" "                                                 RT
010910 ZAP$="Please select the word:"
010960 E$=HEX(84)                                                          RT
010961 X$=HEX(81)                                                          JM
010965 PASSWRD$=HEX(000102030E101112131E20)                                JM
011060 CWMENU:                                                              001340
011110 ACCEPT                                                            !  001360
```

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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

011160        AT (01,01), "CRES: Common Word List Maintenance Subsystem",! RT001370
011210        AT (01,48), "(Word & Option Selection Screen)",            ! RT001380
011260        AT (02,01), "==============================================! RT001390
011310 ==================================",                              ! RT001400
011360         AT (04,08), FAC(HEX(8C)),                                 ! RT
011410 ZAP$,                                                             !   001420
011460         AT (06,28), FAC(HEX (8C)),                                ! RT
011510 WORDEQ$ ,                                                         !   001440
011560         AT (06,36), FAC(X$),   WORD$          , CH(20),           ! JM
011610         AT (08,16), FAC(E$), ER$,                                 ! RT
011660         AT (09,28), FAC(E$), ER1$,                                ! RT
011710         AT (11,08),                                      "To cont! RT
011760 inue, select the PF key corresponding to the desired operation.",! RT
011810         AT (13,30), FAC(HEX(A5)),                                 ! RT001490
011860 PF$ ,                                                             ! RT
011910         AT (13,38), FAC(HEX(AC)),                                 !   001510
011960 OPER$,                                                            !   001520
012010         AT (15,31), FAC(HEX(84)),                                 !   001530
012060 O$ ,                                                              !   001540
012110         AT (15,39),                                               !   001550
012160 "INSERT word",                                                    !   001560
012210         AT (16,31), FAC(HEX(84)),                                 !   001570
012260 T$ ,                                                              !   001580
012310         AT (16,39),                                               !   001590
012360 "DELETE word",                                                    !   001600
012410         AT (17,31), FAC(HEX(84)),                                 !   001610
012460 TH$,                                                              !   001620
012510         AT (17,39),                                               !   001630
012560 "MODIFY word",                                                    !   001640
012610         AT (20,31), FAC(HEX(84)),                                 ! JM
012660 Q$,                                                               ! JM
012710         AT (20,39),                                               ! JM
012760 "Protection Override",                                            ! RT
013010         AT (21,31), FAC(HEX(84)),                                 ! RT
013060 S$  ,                                                             !   001700
013110         AT (21,39),                                               ! RT
013160 "Return to Common Word List Menu",                                !   001720
013210 KEYS(PASSWRD$),                                                   ! JM
013310     KEY(OPTION)                                                     JM
013360 IF OPTION=16 OR OPTION=32 THEN EXIT                                 JM
013410                                                                     RT
013460 FOR I = 1 TO LEN(WORD$)
013510 IF POS(".'ABCDEFGHIJKLMNOPQRSTUVWXYZ-"=STR(WORD$,I,1))=0          ! JM
013560                          THEN ILLERR
013610 NEXT I
013660
013710 E$= HEX(8D)                                                         RT
013760 ER$,ER1$ =" "                                                       RT
013810                             /* Check for confirmation of deletion */ RT
013860 IF (OPTION=0)AND(DF=1) THEN DEL                                     RT
013910                             /* Check for cancellation of deletion */ JM
013960 IF DF=1 THEN UPDATE                                                 RT
014010                       /* Check for override of the protection byte */ RT
014060 IF (OPTION=14) OR (OPTION=30) THEN OVERRIDE                         JM
014110 IF STR(WORD$,1,1)<> " " THEN REED                                   RT
014160                                                                       001830
014210 PRINT BELL                                                          RT001840
```

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Input File is CRES@CWL in Library CRES@SRC on Volume CRESU2

014260 ER$="                         The first character cannot be blank."
014310 ER1$= "Please reenter the appropriate word and PF key."             RT001850
014360 E$= HEX(94)                                                          RT
014410 GOTO CWMENU                                                          RT
014460                                                                        001880
014510 ILLERR:
014560 ER$="Illegal character found in word - please reenter."
014610 E$= HEX(94): GOTO CWMENU                                             RT
014660
014710 OVERRIDE:                                                            RT
014760 IF NF=1 AND P%=1 THEN CHK                                            RT
014810 ER$="Please check first if the protection is set by selecting PF3"  RT
014860 E$=HEX(84)                                                           RT
014910 GOTO  CWMENU                                                         RT
014960                                                                      RT
015010 /* Protection override is confirmed if the protection bytes*/       JM
015060 /* indicate a user not currently logged on or if the        */      JM
015110 /* current user's id equals the protection bytes.            */      JM
015160 CHK:                                                                 RT
015210 IF (USER$=PROTECT$) OR (WRKST%=-1) THEN REMOVE                       RT
015260   ER$= "You don't have the clearance to override the protect."      RT
015310   E$= HEX(84)                                                        RT
015360 GOTO CWMENU                                                          RT
015410                                                                      RT
015460              /* Reset the protection bytes to blanks */              JM
015510 REMOVE: PROTECT$= " " :P%=0                                          RT
015560           READ #1, HOLD, KEY=WORD$,IOBUFF$                           RT
015610           $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOFSPC$, PPARTFL$,   ! RT
015660              NEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                  RT
015710           REWRITE #1, IOBUFF$, DATA GOTO IOERR2                      RT
015760           ER$= "          You may now select your option."           RT
015810           E$= HEX(84)                                                RT
015860          GOTO CWMENU                                                 RT
015910                                                                      RT
015960 IOERR1:   PRINT                                                        001890
016010           E$=HEX(94)                                                 RT
016060           ER1$= "File type is wrong - please respecify."             RT
016110           CLOSE #1                                                     001910
016160           GOTO FILMNU                                                  001930
016210                                                                      RT001940
016260 IOERR2:   PRINT                                                      RT001950
016310           PRINT HEX(94),"Error occurred on file "; FILE$             RT001960
016360           PRINT HEX(94),"Error code = "; FS(#1)                      RT001970
016410           STOP "Touch ENTER to return to menu."                      RT001980
016460           GOTO CWMENU                                                RT001990
016510                                                                      RT002000
016560 /* If "ENTER" was hit accidently before an option was given */      RT
016610 REED: IF OPTION<>0 THEN SRCH                                         RT
016660 ER$= "                       Command missing."                       RT
016710 E$= HEX(94)                                                          RT
016760 GOTO CWMENU                                                          RT
016765                                                                      RT
016770 SRCH: P%=1                                                           RT
016810       READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,            ! RT
016860               DATA GOTO IOERR2                                       RT002020
016910                                                                      RT002030
016960      NF=1                                                            RT002040
```

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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

017010                                                                    RT002660
017060     /* Unpack and check if currently being modified by another */  RT002670
017110                                                                    RT002680
017160         $UNPACK (F=F1$) IOBUFF$ TO WORD$,PRTOFSPC$,PPARTFL$,     ! RT002690
017210                NEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$              RT
017260         IF PROTECT$= " " THEN NOW                                  RT
017310           CALL "FINDUSER" ADDR(PROTECT$,USERNAME$,WRKST%)          RT
017360           E$= HEX(94)                                              RT
017410           CONVERT WRKST% TO WRKST$,PIC(###)                        RT
017460           ER$="       Sorry, "& USERNAME$&" is currently editing " RT
017510           ER1$=      "'"& WORD$ & "'" & " at workstation "& WRKST$ RT
017560           REWRITE #1,IOBUFF$                                       RT
017610           GOTO CWMENU                                              RT
017660                                                                    RT
017710 NOW:     PROTECT$= USER$                                           RT
017760          $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOFSPC$, PPARTFL$,  ! RT
017810             NEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                 RT
017860          REWRITE #1, IOBUFF$, DATA GOTO IOERR2                     RT
017910                                                                    RT
017960      /* NOW BRANCH TO THE OPTION SELECTED */                       RT002050
018010 OPT:  ON OPTION GOTO INSERT,DELET,MODIFY                           RT
018060       ON OPTION-16 GOTO INSERT,DELET,MODIFY                        RT
018160                                                                      002160
018210 NOTFOUND: NF=0                                                     RT002170
018260           GOTO OPT                                                 RT002180
018310                                                                    RT002190
018360 INSERT:                                                            RT002200
018410        /* NF=0 indicates the word doesn't yet exist so go ahead */ RT002210
018460        /* and insert. NF=1 indicates the word exists.           */ RT002220
018510                                                                    RT002230
018560         IF NF=1 THEN EXIST                                         RT002240
018610         MOD$= "(Insert Screen)"                                    RT002250
018615         MESING$="inserting word"                                   JM
018660         ROOTFL$,PPARTFL$,PRTOFSPC$,NEGFL$,MWLFL$=" "               RT
018710         PROTECT$= USER$                                            RT
018760         $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOFSPC$, PPARTFL$,   ! RT
018810            NEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                  RT
018860         WRITE #1, IOBUFF$, DATA GOTO IOERR2                        RT
018910         GOTO INS   /* goto the screen with the word attrirbutes */ RT
018960                                                                      002320
019010 /* Coming from insert with the word currently existing, */         RT
019060 /* print an error message and erase the protection from */         RT
019110 /* the record.                                           */         RT
019160 EXIST:                                                               002360
019210       ER$= "The word '" & WORD$ & "' already exists in this list." RT002370
019260       E$= HEX(94)                                                  RT
019310       READ #1, HOLD, KEY= WORD$,IOBUFF$                            RT
019360       PROTECT$=" ":P%=0                                            RT
019410       $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOFSPC$, PPARTFL$,     ! RT
019460           NEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                   RT
019510       REWRITE #1, IOBUFF$, DATA GOTO IOERR2                        RT
019560       GOTO CWMENU                                                  RT
019610                                                                    RT
019660 /* DELET,DEL, & NODEL all pertain to the delete option */          RT
019710 /* DELET- gives the user a chance to cancel the deletion  */       JM
019760 DELET: IF NF=0 THEN NODEL                                          RT002420
019810        DF=1                                                        RT002430
```

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019860        ER$= "            Press ENTER to confirm deletion of "& WORD$ RT
019910        ER1$="or press PF14 to cancel the deletion.     "             JM
019960         E$= HEX(94)                                                  RT
019965         PASSWRD$=HEX(000E1E)                                         JM
019970         X$=HEX(85)                                                   JM
020010         GOTO CWMENU                                                  RT002460
020060                                                                      RT002470
020110 /* DEL- deletes the entire record */                                 RT
020160 DEL:    READ #1, HOLD,KEY=WORD$,IOBUFF$                              RT
020210         DELETE #1                                                    RT
020260         DF=0                                                         RT002490
020310    ER$= "    '"&WORD$&"' deleted - Please select your next word."  RT
020360         ZAP$=" "
020410         WORD$=" "    :NF=0                                           JM
020420         PASSWRD$=HEX(000102030E101112131E20)                         JM
020425         X$=HEX(81)                                                   JM
020460         GOTO CWMENU                                                  RT002530
020510                                                                        002540
020560 /* NODEL- prints an error messages when the word doesn't exist */  RT
020610 NODEL: ER$= "The word '"& WORD$ & "' does not exist in this list." RT002550
020660         E$= HEX(94)                                                  RT
020710         GOTO CWMENU                                                  RT002570
020760                                                                      RT002580
020810 MODIFY: IF NF=1 THEN GETIT                                           RT002590
020860      ER$="The word you are attempting to modify does not exist"& ! RT
020910           " in this list."                                           RT001300
020960                             /* if word not in list,  */              RT
021010          E$=HEX(94)        /* set up message and fac and */          RT
021060          GOTO CWMENU        /* go back up to previous screen */     RT002620
021110                                                                      RT002630
021160 GETIT:                                                               RT
021210                                                                      RT002720
021260 MOD$           ="(Modify Screen)"                                    RT002730
021270          MESING$="modifying word",                                   JM
021310 INS:                                                                 RT002740
021360 ER1$           =" "                                                  RT
021410 E$          =HEX(8C)                                                 RT
021460                                                                      RT002830
021510 /* This accept statement generates a screen with the attributes */ RT
021560 /* corresponding to each word appropriately labeled for insert  */ RT
021610 /* or modification. It also calls another screen on request if  */ JM
021660 /* there is a need for a explanation of legal entries for the   */ RT
021710 /* parts of speech.                                              */ RT
021760 AOK:                                                                 RT002840
021810 ACCEPT                                                             ! RT002850
021860        AT (01,01),                                                 ! RT002860
021910 "CRES: Common Word List Maintenance Subsystem",                    ! RT002870
021960        AT (01,66), FAC(HEX(8C)),MOD$,                              ! RT002880
022010        AT (02,01), "=============================================! RT002890
022060 ===================================",                              ! RT002900
022110        AT (03,07),                                                 ! RT002910
022160 "For an explanation of legal entries, press",                      ! JM
022210        AT (03,50),FAC(HEX(84)), PF1$,                              ! RT
022260        AT (03,54),                                                 ! RT
022310 "; otherwise, enter",                                              ! RT002950
022360        AT (04,07),                                                 ! RT002960
022410 "the appropriate attribute(s).",                                   ! RT002970
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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

022460        AT (06,33),FAC(HEX(AD)), DEF$ ,                          ! RT002980
022510        AT (06,41),FAC(HEX(AD)), A5$  ,                          ! RT002990
022560        AT (06,58),FAC(HEX(AD)), LEG$ ,                          ! RT003000
022610        AT (06,64),FAC(HEX(AD)), A7$  ,                          ! RT003010
022660        AT (08,07),                                              ! RT003020
022710 "WORD:",                                                        ! RT003030
022760        AT (08,15),FAC(HEX(84)), WORD$,                          ! RT003040
022810        RANGE ( ":   "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT003050
022860        AT (08,61),                                              ! RT003060
022910 "(A-Z.-')",                                                     ! JM
022960        AT (10,07),                                              ! RT003080
023010 "PART OF SPEECH:",                                              ! RT003090
023060        AT (10,41),FAC(HEX(80)),PRTOFSPC$, CH(01),               ! RT003100
023110        AT (10,57),                                              ! RT003110
023160 "(ABCIJNOPVadjn)",                                              ! RT
023210        AT (11,07),                                              ! RT003130
023260 "PAST PARTICIPLE:",                                             ! RT003140
023310        AT (11,41), PPARTFL$      , CH(01),                      ! RT003150
023360        AT (11,57),                                              ! RT003160
023410 "(* or NO ENTRY)",                                              ! RT003170
023460        AT (12,07),                                              ! RT003180
023510 "NEGATIVE:",                                                    ! RT003190
023560        AT (12,41), NEGFL$        , CH(01),                      ! RT
023610        AT (12,57),                                              ! RT003210
023660 "(* or NO ENTRY)",                                              ! RT003220
023710        AT (13,07),                                              !
023760 "TO BE:",                                                       !
023810        AT (13,41), TOBEFL$       , CH(01),                      !
023860        AT (13,57),                                              !
023910 "(* or NO ENTRY)",                                              !
023960        AT (14,07),                                              !
024260 "ROOT WORD:",                                                   !
024310        AT (14,41), ROOTFL$, CH(01),                             ! RT
024360        AT (14,57),                                              ! RT
024410 "(* or NO ENTRY)",                                              !
024460        AT (17,25),FAC(E$),ER1$,                                 ! RT
024510        AT (20,17),"Use",FAC(HEX(85)),TAB$,"or",FAC(HEX(85)),    ! RT
024560        BTAB$,"to move between modifiable fields.",              ! JM
024610        AT (23,30),                                              ! RT
024660 "Press",                                                        ! RT003270
024710        AT (23,36),FAC(HEX(84)),ENTER$,                          ! RT
024760        AT (23,42),                                              ! RT
024810 "to continue",                                                  ! RT003300
024860        AT (24,21),                                              ! JM
024910 "Press" ,AT(24,27),FAC(HEX(84)),PF16$,AT(24,32),                ! JM
024960 "to exit without ",                                             ! JM
024965  AT(24,48),FAC(HEX(8C)), MESING$,                               ! JM
025010 KEYS(BIN(0)&BIN(1)&BIN(17)&BIN(16)&BIN(32)),KEY(OPTION),        ! RT
025060 ON (BIN(16)&BIN(32)) GOTO EXIOM,EXIOM                             RT
025110                                                                   RT003320
025310 IF OPTION=1 OR OPTION=17 THEN DEFIN                               RT
025360 ER1$=" "                                                          RT
025410                                                                     003380
025460 /*  Check for validity of entries  */                             RT003390
025510                                                                   RT003400
025560          IF POS("ABCIJNOPVadjn"=PRTOFSPC$)>0 THEN NEXT1           RT
025610          ER1$ = "Part of Speech value is illegal."                RT003420
```

```
025660          E$ = HEX(94)                                                RT
025710          GOTO AOK                                                    RT003440
025760                                                                      RT
025810 NEXT1:   IF POS(" *"=PPARTFL$))0 THEN NEXT2                          RT003450
025860          ER1$ = "Past Participle value is illegal."                  RT003460
025910          E$ = HEX(94)                                                RT
025960          GOTO AOK                                                    RT003480
026010 NEXT2:   IF POS(" *"=NEGFL$))0 THEN NEXT3                            RT
026060          ER1$ = "   Negative value is illegal."                      RT
026110          E$ = HEX(94)                                                RT
026160          GOTO AOK                                                    RT003520
026210 NEXT3:   IF POS(" *"=TOBEFL$))0 THEN NEXT4                           RT
026260          ER1$ = "     To Be value is illegal."                       JM
026310          E$ = HEX(94)                                                RT
026360          GOTO AOK                                                    RT
026610 NEXT4:   IF POS(" *"=ROOTFL$))0 THEN UPDATE                          RT
026660          ER1$ = "  Root word value is illegal."                      RT
026710          E$ = HEX(94)                                                RT
026760          GOTO AOK                                                    RT
026810                                                                      RT
026860 /* EXIOM IS USED TO EXIT THE INSERT MODE AND CALL NOCHAN */          RT
026910 /* TO EXIT THE MODIFY MODE                                */          RT
026960 EXIOM:  READ #1, HOLD,KEY=WORD$,IOBUFF$                              RT
027010         IF NF=1 THEN NOCHAN                                          RT
027060         DELETE #1                                                    RT
027110         ER$= "                Word "&WORD$&" was not inserted."      RT
027160         GOTO CWMENU                                                  RT
027210                                                                      RT003530
027260 NOCHAN: PROTECT$ = " " :P%=0                                         RT
027310         $PACK (F=F2$) IOBUFF$ FROM PROTECT$                          RT
027360         REWRITE #1,IOBUFF$,DATA GOTO IOERR2                          RT
027410         ER$= "                    No changes were saved."            RT
027460         E$= HEX(8C)                                                  RT
027510         GOTO CWMENU                                                  RT
027560                                                                      RT
027610 /* UPDATE removes the protection on the record and writes out  */   RT
027660 /* the final data as input.                                    */   JM
027710 UPDATE: READ #1, HOLD, KEY=WORD$, IOBUFF$                            RT
027760         PROTECT$ = " " :P%=0                                         RT
027810         $PACK (F=F1$) IOBUFF$ FROM WORD$,PRTOFSPC$,PPARTFL$,      ! RT
027860             NEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                   RT
027910         REWRITE #1,IOBUFF$,DATA GOTO IOERR2                          RT003600
027960         ER1$= " "
028010         IF NF=0 THEN RITE        /* NF=0 indicates insert mode */ RT
028060         IF DF=1 THEN EXDEL       /* DF=1 indicates delete mode */ RT
028110         ZAP$=" "                 /* otherwise in modify mode   */ RT
028160 ER$="     '"&WORD$&"' updated - Please select next word."            JM
028210         E$=HEX(8C)                                                   RT
028260         WORD$=" "
028310         GOTO CWMENU                                                  RT003610
028360 RITE:                                                                RT003620
028410 ER$= "   '"&WORD$&"' inserted - Please select your next word."       RT
028460         ZAP$=" "
028510         WORD$=" "
028560         GOTO CWMENU                                                  RT003660
028610                                                                        003670
028660 EXDEL: DF=0                                                          RT
```

```
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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

028710        ER$="              Deletion cancelled."                      JM
028720        PASSWRD$=HEX(000102030E101112131E20)                         JM
028725        X$=HEX(81)                                                   JM
028760        GOTO CWMENU                                                  RT
028810                                                                     RT
029110                                                                       003720
029160 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                    003730
029210 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                    003740
029260 DEF FN'7(ER1$,B$,C$,D$)                                             RT
029310      PRINT                                                            003760
029360      E$=HEX(94)                                                     RT
029410      G$=B$                                                            003780
029460      L$=C$                                                            003790
029510      V$=D$                                                            003800
029560 RETURN                                                              RT003810
029610                                                                     RT003820
029660 DEFIN:                                                              RT003830
029710 ACCEPT                                                            ! RT003840
029760        AT (01,01),                                                ! RT003850
029810 "CRES: Common Word List Maintenance Subsystem",                   ! RT003860
029860        AT (01,51), FAC(HEX(8C)),                                  ! JM
029910 EXP$,                                                             ! RT003880
029960        AT (02,01),"===============================================! RT003890
030010 ==================================",                              ! RT003900
030055        AT (05,08),  FAC(HEX(AD)),       ITLE5$        , CH(14),   ! JM
030060        AT (05,49),  FAC(HEX(AD)),       ITLE6$        , CH(10),   ! JM
030065        AT (07,03),  FAC(HEX(84)),      P$(1)          , CH(03),   ! RT
030070        AT (07,08),                                                ! RT
030075 "Adjective ..............Modifies a noun or pronoun",             ! RT
030080        AT (08,03), FAC(HEX(84)),       P$(2)          , CH(03),   ! RT
030085        AT (08,08),                                                ! RT
030090 "Adjective/verb .........A word that may function as an adjective! RT
030095  or verb",                                                        ! RT
030100        AT (09,03),  FAC(HEX(84)),      P$(3)          , CH(03),   ! RT
030105        AT (09,08),                                                ! RT
030110 "Adverb .................Modifies a verb, adjective, or adverb", ! RT
030115        AT (10,03),  FAC(HEX(84)),      P$(4)          , CH(03),   ! RT
030120        AT (10,08),                                                ! RT
030125 "Adverb/verb ............A word that may function as an adverb or! RT
030130  verb",                                                           ! RT
030135        AT (11,03), FAC(HEX(84)),       P$(5)          , CH(03),   ! RT
030140        AT (11,08),                                                ! RT
030145 "Article ................A limiting adjective before a noun (e.g.! RT
030150  a, the)",                                                        ! RT
030155        AT (12,03), FAC(HEX(84)),       P$(6)          , CH(03),   ! RT
030160        AT (12,08),                                                ! RT
030165 "Conjunction ............Links phrases or clauses (e.g. or)",     ! RT
030170        AT (13,03),  FAC(HEX(84)),      P$(7)          , CH(03),   ! RT
030175        AT (13,08),                                                ! RT
030180 "Interjection ...........Used for simple exclamations (e.g. On!)"! RT
030185 ,                                                                 ! RT
030190        AT (14,03),  FAC(HEX(84)),      P$(8)          , CH(03),   ! RT
030195        AT (14,08),                                                ! RT
030200 "Noun ...................Indicates a person, place, or thing",    ! JM
030205        AT (15,03),  FAC(HEX(84)),      P$(13)          , CH(03),  ! RT
030210        AT (15,08),                                                ! RT
030215 "Noun/adjective .........A word that may function as a noun or ad! RT
```

```
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Input File is CRES@CWL in Library CRES@SRC on Volume CRES02

030220 jective",                                                        ! RT
030225        AT (16,03),  PAC(HEX(84)),      P$(9)         , CH(03),   ! RT
030230        AT (16,08),                                               ! RT
030235 "Noun/verb ..............Word that may function as a noun or verb! RT
030240 ",                                                               ! RT
030245        AT (17,03), PAC(HEX(84)),       P$(10)        , CH(03),   ! RT
030250        AT (17,08),                                               ! RT
030255 "Preposition ............Expresses a relationship between two ele! JM
030260 ments of ",                                                      ! JM
030261        AT (18,08),                                               ! JM
030262 "                        a sentence (e.g. in, on, by, to, since) ! JM
030263 ",                                                               ! JM
030265        AT (19,03),  PAC(HEX(84)),      P$(11)        , CH(03),   ! JM
030270        AT (19,08),                                               ! JM
030275 "Pronoun ................Word that may be used as a substitute fo! RT
030280 r a noun",                                                       ! RT
030285        AT (20,08),                                               ! JM
030290 "                        (e.g. I, you, she, what,....)",         ! JM
030295        AT (21,03),  PAC(HEX(84)),      P$(12)        , CH(03),   ! JM
030300        AT (21,08),                                               ! JM
030305 "Verb ...................Denotes an action or occurrence",       ! RT
030315        AT (23,20),                                               ! RT
030320 "Press",                                                         ! RT
030325        AT (23,26),   PAC(HEX(84)),      PF1$          , CH(03),  ! RT
030330        AT (23,30),                                               ! RT
030335 "to return to the previous screen",                              ! RT
031560  KEYS(BIN(1)&BIN(17)), ON (BIN(1)&BIN(17)) GOTO AOK,AOK            RT004190
031610                                                                    RT004200
031660 EXIT: CLOSE #1                                                       004210
031710 OUT:  /* RETURNING TO COMMON WORD LIST MENU */                     JM
```

Print Common Word List (CRES@CWP)

CRES@CWP in library CRES@SRC is the BASIC language program to print the Common Word List. The object language version is CRES@CWP in library CRES@SAV.

This program first allows the user to specify the word list to be printed. Then the program enables the user to print out either the entire Common Word List, or a specified portion. This printout can be displayed at the terminal or sent to the printer. An optional subtitle of up to two lines can be included for the printout, and the number of lines per page may be specified as some value less than the default value of 50.

A complete program listing follows. Appendix C contains a sample flowchart.

```
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Input File is CRES@CWP in Library CRES@SRC on Volume CRES02

000010 /*  This is the CRES COMMON WORD LIST PRINT SUBSYSTEM PROGRAM  */  JM
000020 /*                                                             */  RT
000030 /*                 AUTHORS: Rose Tank and John Mears           */  RT
000040 /*                 Date:    October 12, 1983                   */  RT
000050 /*                                                             */  RT
000060                                                                    RT
000070 /* The following code sets up a screen, which asks for the     */  RT
000080 /* name of the file containing the common word list            */  RT
000090 /* to be printed.  It also provides the opportunity to change  */  RT
000100 /* the library and volume names which are set to the appro-    */  RT
000110 /* priate defaults through the "Extract" system routine.       */  RT
000120                                                                    RT
000130                                                                    RT
000140 DIM WORD$24,ERR1$50,CODE$1,MSG$50,F$40,G$1,CMSG$255,MSG2$40        RT
000150 DIM F1$20,IOBUFF$64,EXP$31,PFILE$08,RLIB$8,RVOL$6                  JM
000160 DIM TAB$3,BTAB$7,FILE$08,LIB$08,ILIB$08,PLIB$8,PVOL$6              JM
000170 DIM IVOL$06,HEADER$51,L$1,V$1,B$1,C$2,D$8,M$1,MSK$2                RT
000180 DIM SBTITLE$20,A$(14)10,SBTITL1$20,E2$44                           JM
000190 DIM EN$             05                                             RT
000200 DIM EX$             04                                             RT
000210 DIM ER$             79,MESSG$21                                    RT
000220 DIM STARTPH$        20                                             RT
000230 DIM ENDPH$          20                                             RT
000240 DIM TP$             08                                             RT
000250 DIM PF15$           04                                             RT
000260 DIM PF16$           04                                             RT
000270                                                                    RT
000280 EN$            ="ENTER"                                            RT
000290 A$(1)= "adjective"                                                 RT
000300 A$(2)= "verb"                                                      RT
000310 A$(3)= "conjunct'n"                                                RT
000320 A$(4)= "adj/verb"                                                  RT
000330 A$(5)= "noun"                                                      RT
000340 A$(6)= "pronoun"                                                   RT
000350 A$(7)= "interject"                                                 RT
000360 A$(8)= "noun/verb"                                                 RT
000370 A$(9)= "adverb"                                                    RT
000380 A$(10)="preposit"                                                  RT
000390 A$(11)="article"                                                   RT
000400 A$(12)="adv/verb"                                                  RT
000410 A$(13)="noun/adj"                                                  RT
000420                                                                    RT
000430 TAB$="TAB"                                                         RT
000440 BTAB$="BACKTAB"                                                    RT
000450 EXP$="(Explanation of Entries Screen)"                             RT
000460 MESSG$="Parts of Speech Codes"                                     RT
000470 F1$=HEX(0014000100010001000 3A0010001000 3000B)                    RT
000480 F$= "Filename not found on (library/volume)."                      RT
000490 ERR1$= "I/O ERROR - Please respecify a COMMON word list."          RT
000495 E2$= "   Please specify a COMMON word list."                       JM
000500 CALL "EXTRACT" ADDR("IV",IVOL$,"IL",ILIB$,"RV",RVOL$,"SL",PLIB$, ! JM
000510          "SV",PVOL$,"RL",RLIB$)                                    JM
000520 FILE$="CMNWDLST"
000530 LIB$=ILIB$                                                         JM
000540          G$=HEX(81)                                                JM
000550          MSG$=" ":L$=HEX(81)                                       RT
000560          V$=HEX(81): M$=HEX(8D)                                    RT
```

```
Wang VS Integrated Editor - Version  6.10.00       15:41 11/08/84    Page      2
Input File is CRES@CWP in Library CRES@SRC on Volume CRES02

000570 HEADER$     ="CRES COMMON WORD LIST PRINT SUBSYSTEM"              RT
000580 FIL$         ="Common Word List"                                  JM
000590 EX$="PF16"                                                        RT
000600                                                                   RT
000610 FILMNU:                                                           RT
000620 ACCEPT                                                          ! RT
000630        AT (01,01),                                              ! RT
000640 "CRES: Common Word List Print Subsystem",                       ! RT
000650        AT (01,57),                                              ! RT
000660 "(File Selection Screen)",                                      ! RT
000670        AT (02,01),                                              ! RT
000680 "===============================================================! RT
000690 ==============",                                                ! RT
000700        AT (04,15),                                              ! JEM
000710 "Welcome to the",                                               ! RT
000720        AT (04,26), FAC(HEX(85)),                              . ! RT
000730 HEADER$,                                                        ! RT
000740        AT (07,12),                                              ! JM
000750 "Please specify the",                                           ! JM
000760        AT (07,31), FAC(HEX(84)),                                ! JM
000770 FIL$,                                                           ! JEM
000780        AT (07,48),                                              ! JM
000790 "you want to print,",                                           ! JM
000800        AT (08,18),                                              ! JM
000810 "if the default values are not satisfactory.      ",            ! RT
000820        AT (13,30),                                              ! RT
000830 "File     =",                                                   ! RT
000840        AT (13,43),FAC(G$),FILE$         , CH(08),               ! RT
000850        RANGE ( ":    "      , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT
000860        AT (14,30),                                              ! RT
000870 "Library  =",                                                   ! RT
000880        AT (14,43),FAC(L$), LIB$         , CH(08),               ! RT
000890        RANGE ( ":    "      , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT
000900        AT (15,30),                                              ! RT
000910 "Volume   =",                                                   ! RT
000920        AT (15,43),FAC(V$), IVOL$        , CH(06),               ! RT
000930        RANGE ( ":    "      , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT
000940        AT (18,24), FAC(M$), MSG$,                               ! RT
000950        AT (20,30),"Press",                                      ! RT
000960        AT (20,36),FAC(HEX(84)),                                 ! RT
000970 EN$,                                                            ! RT
000980        AT(20,42),                                               ! RT
000990 "to continue",                                                  ! JM
001000        AT (21,17),"Press",                                      ! RT
001010        AT (21,23), FAC(HEX(84)),                                ! RT
001020 EX$,                                                            ! RT
001030        AT (21,28),                                              ! RT
001040 "to return to the Common Word List Menu",                       ! JM
001050 ON (BIN(16)&BIN(32)) GOTO OUT                                     RT
001070                                                                   RT
001080 /* SET UP THE USER FILE BLOCK */                                  RT
001090                                                                   RT
001100 SELECT #1,"COMMON",VARC,INDEXED,RECSIZE=40,KEYPOS=1,KEYLEN=20,  ! RT
001110           IOERR GOTO IOERR1                                       RT
001120                                                                   RT
001130 SELECT #2,"PRTFILE",PRINTER,RECSIZE=80,IOERR GOTO IOERR1          RT
001140                                                                   RT
```

```
Wang VS Integrated Editor - Version  6.10.00       15:41 11/08/84   Page      3
Input File is CRES@CWP in Library CRES@SRC on Volume CRES02

001150 /* SEE IF THE SPECIFIED FILE EXISTS */                              RT
001160                                                                     RT
001170 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,MSG$)                          RT
001180 IF CODE$="Y" THEN ZZZ                                               RT
001190 IF CODE$="N" THEN GOSUB'7(F$,HEX(91),HEX(81),HEX(81))               RT
001200 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))      RT
001210 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))      RT
001220 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))      RT
001230 GOTO FILMNU                                                         RT
001240                                                                     RT
001250 /* IF WE FALL HERE, THE FILE EXISTS - BUT IS IT A COMMON LIST? */   JM
001260                                                                     JM
001270 ZZZ:  CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,0%,"RS",RAG%,RET%)       JM
001290        IF RAG%=40 THEN ZZ1                                          JM
001295        GOSUB'7(E2$,HEX(91),HEX(81),HEX(81))                         JM
001297        GOTO FILMNU                                                  JM
001300                                                                     RT
001310 ZZ1: OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,       ! JM
001320      VOLUME = IVOL$                                                 RT
001330                                                                     RT
001340      READ #1,IOBUFF$, DATA GOTO IOERR2                              RT
001360      IF STR(IOBUFF$,1,16)=" COMMON WORDS   " THEN YES               JM
001370      CLOSE #1                                                       RT
001380      M$=HEX(94)                                                     RT
001390      MSG$= ERR1$                                                    RT
001400      GOTO FILMNU                                                    RT
001410 YES:                                                                RT
001420 /* This section of code generates the second screen, which asks */ RT
001430 /* for the particular word interval and its corresponding        */ RT
001440 /* print  operation.  The user is also given the option of       */ JM
001460 /* returning to the common word list menu.                       */ JM
001470                                                                     RT
001490 ER$ =" "                                                            RT
001540 CWMENU:                                                             RT
001550 WORD$ = " "                                                         RT
001560 LPP%          =50                                                   RT
001570 PF15$         ="PF15"                                               RT
001580 PF16$         ="PF16"                                               RT
001590 SBTITLE$      =" "                                                  RT
001600 SBTITL1$      =" "
001610 BALONEY:                                                            RT
001620      TP$            ="TERMINAL"                                     RT
001630      STARTPH$       ="FIRST"                                        RT
001640      ENDPH$         ="LAST"                                         RT
001650 PRINTSCR:                                                           RT
001660 ACCEPT                                                            ! RT
001670        AT (01,03),                                                ! RT
001680 "CRES: Common Word List Print Subsystem",                         ! RT
001690        AT (01,66),                                                ! RT
001700 "(Print Screen)",                                                 ! RT
001710        AT (02,03),                                                ! RT
001720 "=================================================================! RT
001730 =============",                                                   ! RT
001740        AT (04,13),                                                ! RT
001750 "To print a range of lines, fill in the information below.",      ! RT
001760        AT (06,02), FAC(HEX(85)),                                  ! RT
001770  ER$,                                                             ! RT
```

```
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Input File is CRES@CWP in Library CRES@SRC on Volume CRES02

001780          AT (08,22),                                              ! RT
001790 "Subtitle of list =",                                             ! RT
001800          AT (08,42), FAC(HEX(81)),SBTITLE$,CH(20),                ! RT
001810          AT (09,42), FAC(HEX(81)),SBTITL1$,CH(20),                ! RT
001820          AT (12,22),                                              ! RT
001830 "Starting word    =",                                             ! RT
001840          AT (12,42),FAC(HEX(81)), STARTPH$, CH(20),               ! RT
001850          RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                ! RT
001860          AT (13,22),                                              ! RT
001870 "Ending word      =",                                             ! RT
001880          AT (13,42), FAC(HEX(81)), ENDPH$, CH(20),                ! RT
001890          RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                ! RT
001900          AT (14,22),                                              ! RT
001910 "Lines per page   =",                                             ! RT
001920          AT (14,42), FAC(HEX(82)), LPP%, PIC(##),                 ! RT
001930          AT (17,22),                                              ! RT
001940 "Print at (TERMINAL/PRINTER) =",                                  ! RT
001950          AT (17,53), FAC(HEX(81)), TP$, CH(08),                   ! RT
001960          AT (22,32),                                              ! JM
001970 "Press",                                                          ! RT
001980          AT (22,38), FAC(HEX(85)), EN$, CH(05),                   ! JM
001990          AT (22,44),                                              ! JM
002000 "to print",                                                       ! RT
002010          AT (23,17),                                              ! JM
002020 "Press",                                                          ! RT
002030          AT (23,23), FAC(HEX(84)), PF16$, CH(04),                 ! JM
002040          AT (23,28),                                              ! JM
002050 "to return to the Common Word List Menu",                         ! JM
002060 KEYS(BIN(0)&BIN(16)&BIN(32)),                                     ! JM
002070 ON (BIN(16)&BIN(32)) GOTO EXIT,EXIT                                 JM
002080                 IF STR(TP$,1,1) = "P" THEN NEXT11                   RT
002090                 IF STR(TP$,1,1) <> "T" THEN TERMPR                  RT
002100 NEXT11:         IF LPP% < 51 THEN NEXT13                            RT
002110                 ER$="'Lines per page' can be at most 50."           RT
002120                 GOTO PRINTSCR                                       RT
002160                                                                     RT
002170 IOERR1:   PRINT                                                     RT
002180           PRINT BELL,HEX(94),ERR1$                                  RT
002190           CLOSE #1                                                  RT
002200           FOR I=1 TO 200000 :NEXT I                                 RT
002210           GOTO FILMNU                                               RT
002220                                                                     RT
002230 TERMPR:                                                             RT
002240 ER$="'Print at ' has only legal values TERMINAL or PRINTER."        RT
002250       GOTO PRINTSCR                                                 RT
002260                                                                     RT
002270 REX: ER$="           'Starting word' comes after 'Ending word'."    RT
002280       GOTO PRINTSCR                                                 RT
002290                                                                     RT
002300                                                                     RT
002310 IOERR2:   PRINT                                                     RT
002320           PRINT HEX(94),"Error occurred on file "; FILE$            RT
002330           PRINT HEX(94),"Error code = "; FS(#1)                     RT
002340           STOP "Touch ENTER to return to menu."                     RT
002350           GOTO CWMENU                                               RT
002360                                                                     RT
002370 NEXT13: IF STARTPH$="FIRST" OR ENDPH$="LAST" THEN FORD              RT
```

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```
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Input File is CRES@CWP in Library CRES@SRC on Volume CRES02

002380         IF STARTPH$>ENDPH$ THEN REX                                RT
002390                                                                    RT
002400 /* Now it's time to generate our print file name */                RT
002410                                                                    RT
002420 FORD:   DAT$= DATE                                                 RT
002430         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)      RT
002440         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)                        RT
002450                                                                    RT
002460         PFILE$="COMMWD##"                                          RT
002470         I%=0                                                       RT
002480 NEXT14: CONVERT I% TO STR(PFILE$,7,2),PIC(00)                      RT
002490         I%=I%+1                                                    RT
002500         CALL "LIMITS" (PFILE$,PLIB$,PVOL$,CODE$,MSG$)              JM
002510         IF CODE$="Y" THEN NEXT14                                   RT
002512         IF CODE$="E" THEN ER$ = STR(MSG$,3)                        JM
002514         IF CODE$="E" THEN PRINTSCR                                 JM
002520 DISPLAY                                                          !
002530        AT (01,03),                                               ! RT
002540 "CRES: Common Word List Print Subsystem",                        ! RT
002550        AT (01,61),                                               ! RT
002560 "(Generation Screen)",                                           ! RT
002570        AT (02,03),                                               ! RT
002580 "==============================================================! RT
002590 =============",                                                 ! RT
002600         AT (12,23),                                              !
002610 "Output file now being generated!"
002620         OPEN NOGETPARM #2,OUTPUT,FILE=PFILE$,LIBRARY=PLIB$,      ! JM
002630             VOLUME=PVOL$,SPACE=15000                               JM
002640         GOSUB TTL_PGE                                              RT
002650         IF STARTPH$ = "FIRST" THEN STARTPH$ = ALL(HEX(00))         RT
002660         IF ENDPH$ = "LAST" THEN ENDPH$ = ALL(HEX(FF))              RT
002670         PAGE% = 1                                                  RT
002680         RECS% = 1                                                  RT
002690         READ #1, KEY>=STARTPH$,IOBUFF$                             RT
002700         GOSUB HEADER                                               RT
002710         IF STR(IOBUFF$,1,20)>ENDPH$ THEN HOME                      RT
002720         GOTO KNOT                                                  RT
002730 AGAN:   READ #1, IOBUFF$,EOD GOTO HOME                             RT
002740         IF STR(IOBUFF$,1,20)>ENDPH$ THEN HOME                      RT
002750         IF RECS% = 1 AND PAGE% <> 1 THEN GOSUB HEADER              JM
002760 KNOT:   IF STR(IOBUFF$,1,20)=" COMMON WORDS" THEN AGAN             RT
002770         PSN= POS("JVCjNOInAPBad"= STR(IOBUFF$,21,1))               RT
002780         IF PSN=0 THEN PSN=14                                       JM
002790         IF PSN=14 THEN A$(PSN)=STR(IOBUFF$,21,1)                   JM
002800         IF STR(TP$,1,1)="T" THEN BUG                               RT
002810      WRITE #2, USING CAT6,C$, " ",STR(IOBUFF$,1,20),             ! RT
002820            A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,24,1),          ! RT
002830            STR(IOBUFF$,23,1)                                       RT
002840         IF(STR(IOBUFF$,26,1)<>"*")THEN BAG                         RT
002850         C$=HEX(0000)                                               RT
002860         WRITE #2, USING CAT9, C$,STR(IOBUFF$,1,20)                 RT
002870         WRITE #2, USING CAT9, C$,STR(IOBUFF$,1,20)                 RT
002880         C$=HEX(0001)                                               RT
002890         GOTO BAG                                                   RT
002900 BUG: IF STR(IOBUFF$,26,1)="*" THEN STR(IOBUFF$,26,1)="+"           RT
002910      WRITE #2, USING CAT6,C$,STR(IOBUFF$,26,1),STR(IOBUFF$,1,20),! RT
002920            A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,24,1),          ! RT
```

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Input File is CRES@CWP in Library CRES@SRC on Volume CRES02

002930            STR(IOBUFF$,23,1)                                          RT
002940 BAG:    RECS%=RECS%+1                                                 RT
002950         IF RECS%>LPP% THEN RECS%=1                                    RT
002960         IF RECS%=1 THEN PAGE%=PAGE%+1                                 RT
002970         GOTO AGAN                                                     RT
002980 HOME:   IF RECS%=1 THEN RECS%=51                                      RT
002990         WRITE #2, USING DOG, C$                                       RT
003000         RECS%=RECS%+2                                                 RT
003010         WRITE #2, USING DG, C$                                        RT
003020         FOR I = RECS% TO LPP%+1                                       RT
003030         WRITE #2, USING DOG, C$
003040         NEXT I
003050         IF STR(TP$,1,1)="P" THEN HER1
003060         WRITE #2, USING CAT8, C$
003070         GOTO HER
003080 HER1:   WRITE #2, USING RAT, C$
003090         C$=HEX(0000)
003100         FOR I=1 TO 2                                                  RT
003110         WRITE #2, USING RAT1, C$
003120         NEXT I
003130         C$=HEX(0001)
003140 HER:    CLOSE #2
003150         IF STR(TP$,1,1) ="P" THEN MESS                                RT
003160         CLOSE WS
003170         MSG2$ = "CANCEL Processing"
003180         MSK$=HEX(00)
003190         CMSG$ = " "
003200        CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,       ! JM
003210          PLIB$,      PVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%) JM
003220         ER$ = " "
003230         IF C%<>0 OR R%<>0                                           !
003240         THEN ER$ = STR(CMSG$,141)
003250         GOTO CWMENU
003260                                                                       RT
003270 MESS: ER$="         File "&PFILE$&" in Library "& PLIB$ & " on "    ! JM
003280 &PVOL$  &" generated."                                                JM
003290         GOTO BALONEY                                                  RT
003300                                                                       RT
003370 TTL_PGE:                                                              RT
003380        C$=HEX(8001)                                                   RT
003390        WRITE #2, USING DOG, C$                                        RT
003400        C$ = HEX(0015)                                                 RT
003410        WRITE #2, USING DOG, C$                                        RT
003420        C$ = HEX(0001)                                                 RT
003430        WRITE #2, USING DOG1, C$                                       RT
003440        WRITE #2, USING DOG2, C$                                       RT
003450        WRITE #2, USING DOG0, C$,D$,T$                                 RT
003460        WRITE #2, USING DOG3, C$                                       RT
003470        WRITE #2, USING DOG2, C$                                       RT
003480        WRITE #2, USING DOG1, C$                                       RT
003490        WRITE #2, USING DOG2, C$                                       RT
003500        IF SBTITLE$ = "                      " THEN GERRY              RT
003510        WRITE #2, USING DOG4, C$, SBTITLE$                             RT
003520        IF SBTITL1$<>"                      " THEN WRITE #2, USING   ! RT
003530 DOG10, C$, SBTITL1$                                                   RT
003540        WRITE #2, USING DOG2, C$                                       RT
003550 GERRY: WRITE #2, USING DOG5, C$, FILE$                                RT
```

```
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Input File is CRES@CWP in Library CRES@SRC on Volume CRES02

003560        WRITE #2, USING DOG2, C$                                    RT
003570        WRITE #2, USING DOG6, C$, LIB$                              RT
003580        WRITE #2, USING DOG2, C$                                    RT
003590        WRITE #2, USING DOG7, C$, IVOL$                             RT
003600        WRITE #2, USING DOG2, C$                                    RT
003610        WRITE #2, USING DOG8, C$, STARTPH$                          RT
003620        WRITE #2, USING DOG2, C$                                    RT
003630        WRITE #2, USING DOG9, C$, ENDPH$                            RT
003640        WRITE #2, USING DOG2, C$                                    RT
003650        WRITE #2, USING DOG1, C$                                    RT
003660        RETURN                                                      RT
003670                                                                    RT
003680 HEADER:                                                            RT
003690        IF PAGE%=1 THEN FIRST
003700        C$ = HEX(0001)
003710        IF STR(TP$,1,1)="P" THEN FRST1
003720        WRITE #2, USING DOG, C$
003730        WRITE #2, USING CAT8, C$
003740        GOTO FIRST
003750 FRST1: WRITE #2, USING RAT, C$
003760        C$=HEX(0000)
003770        FOR I=1 TO 2                                                RT
003780        WRITE #2, USING RAT1, C$
003790        NEXT I
003800        C$=HEX(0001)
003810 FIRST: C$ = HEX(8001)                                              RT
003820        WRITE #2, USING DOG, C$                                     RT
003830        C$ = HEX(0001)                                              RT
003840        IF SBTITLE$ = "                    "                      ! RT
003850        THEN WRITE #2, USING CAT,C$,D$,T$,PAGE%                   ! RT
003860        ELSE GOTO FOUT                                              RT
003870        GOTO ALRITE                                                 RT
003880 FOUT:  WRITE #2, USING CAT1,C$,SBTITLE$,D$,T$,PAGE%                RT
003890        IF SBTITL1$<>"                    "                       ! RT
003900        THEN WRITE #2, USING CAT7,C$,SBTITL1$                       RT
003910 ALRITE: WRITE #2, USING CAT2, C$, FILE$, LIB$, IVOL$               RT
003920        WRITE #2, USING CAT3, C$                                    RT
003930        WRITE #2, USING CAT4, C$                                    RT
003940        WRITE #2, USING CAT5, C$                                    RT
003950        WRITE #2, USING CAT3, C$                                    RT
003960        RETURN                                                      RT
003970                                                                    RT
003980 DOG0:%##          !   ########                                 ! RT
003990     #####   !                                                      RT
004000 DOG: %##                                                           RT
004010 DG:%##   !!! END OF LISTING !!!                                    RT
004020 DOG1:%##          !----------------------------------------------! RT
004030 ------------!                                                      RT
004040 DOG2:%##          !                                              ! RT
004050             !                                                      RT
004060 DOG3:%##          !              ******   COMMON WORD LIST   ****! RT
004070 "           !                                                      RT
004080 DOG4:%##          !              TITLE OF LIST:  ################! RT
004090 ####        !                                                      RT
004100 DOG5:%##          !              INPUT FILE:     ########        ! RT
004110             !                                                      RT
004120 DOG6:%##          !              INPUT LIBRARY:  ########        ! RT
```

```
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Input File is CRES@CWP in Library CRES@SRC on Volume CRES02

004130             !                                                      RT
004140 DOG7:%##          !              INPUT VOLUME:   ######          ! RT
004150             !                                                      RT
004160 DOG8:%##          !              STARTING WORD:  ################! RT
004170 ####        !                                                      RT
004180 DOG9:%##          !              ENDING WORD:    ################! RT
004190 ####        !                                                      RT
004200 DOG10:%##          !                              ###############! RT
004210 #####        !                                                     RT
004220 CAT:%## ########                               #####             ! RT
004230          PAGE #####                                                RT
004240 CAT1:%## TITLE OF LIST : ####################      ########      ! RT
004250 #####      PAGE #####                                              RT
004260 CAT7:%##                 ####################                      RT
004270 CAT2:%## Input File is ######## in Library ######## on Volume ###! RT
004280 ###                                                                RT
004290 CAT3:%##=========================================================! RT
004300 =====================                                              RT
004310 CAT4:%##   WORD                 Part of             Past      To ! RT
004320 Be     Negative                                                    RT
004330 CAT5:%##                         Speech          Participle        RT
004340 CAT6:%## # #################### ##########             #        #! RT
004350           #                                                        RT
004360 CAT9:%##   ####################                                    RT
004370 CAT8:%## + = ROOT WORD                                             RT
004380 RAT:%##   BOLDFACE = Root Word
004390 RAT1:%##   BOLDFACE                                                RT
004400                                                                    RT
004410 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                 RT
004420 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                 RT
004430 DEF FN'7(MSG$,B$,C$,D$)                                            RT
004440      PRINT                                                         RT
004450      M$=HEX(94)                                                    RT
004460      G$=B$                                                         RT
004470      L$=C$                                                         RT
004480      V$=D$                                                         RT
004490 RETURN                                                             RT
004500                                                                    RT
004510 EXIT: CLOSE #1                                                     RT
004520 OUT:  /* RETURNING TO COMMON WORD LIST MENU */                     JM
```

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Print Common Words By Attribute (CRES@CPA)

CRES@CPA in library CRES@SRC is the BASIC language program to print the Common Word List by attribute. The object language version is CRES@CPA in library CRES@SAV.

This program first allows the user to specify the word list to be printed and the attributes, (part of speech, past participle, form of the verb "to be", negative or root word) to be included. See table 1 for a definition of the parts of speech.

If a particular part of speech is selected which also appears in combination with some other part(s) of speech, all combinations which contain the originally specified part of speech will be included. (For example, selecting verb will produce a list of verbs, adverb/verbs, noun/verbs, and adjective/verbs.) More than one attribute can be selected, and all words containing any attribute selected will be included in the printout. If the root word attribute is selected in combination with another attribute, then only root words possessing that attribute will be printed.

The user can select a subtitle of up to two lines to be printed on each page of the output listing. The output listing can be sent to either the terminal or the printer, it can encompass the entire output list generated, or any portion of the list, and the number of lines per page can be specified.

A complete program listing follows. Appendix C contains a sample flow chart.

```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

000010 /*This is the CRES COMMON WORD LIST PRINT BY ATTRIBUTE PROGRAM */  JM
000020 /*                                                             */
000030 /*                   AUTHOR:  Rose Tank                        */  JM
000040 /*                   Date:    January 12, 1984                 */  JM
000050 /*                                                             */
000060
000070 /* The following code sets up a screen, which asks for the    */
000080 /* name of the file containing the common word list           */
000090 /* to be printed.  It also provides the opportunity to change */
000100 /* the library and volume names which are set to the appro-   */
000110 /* priate defaults through the "Extract" system routine.      */
000120
000130
000140 DIM WORD$24,ERR1$60,CODE$1,MSG$50,F$40,G$1,CMSG$255,MSG2$40
000150 DIM F1$20,IOBUFF$64,RVOL$06,PFILE$08,FILE$8,ILIB$8,IVOL$6          JM
000160 DIM ENTER$5,PF14$4,PF15$4,PF16$4,ER$79,RLIB$8,E2$37                JM
000170 DIM HEADER$51,L$1,V$1,B$1,C$2,D$8,M$1,MSK$2,MSG1$50
000180 DIM SBTITLE$20,A$(20)15,SBTITL1$20,STARTPH$20,ENDPH$20,TP$8
000190 DIM PSPCTIT$15,OTHERS$16,T$(20)1,X$1,SLIB$8,SVOL$6                 JM
000200
000210 A$(1)= "adjective"
000220 A$(2)= "verb"
000230 A$(3)= "conjunct."
000240 A$(4)= "adj/verb"
000250 A$(5)= "noun"
000260 A$(6)= "pronoun"
000270 A$(7)= "interject"
000280 A$(8)= "noun/verb"
000290 A$(9)= "adverb"
000300 A$(10)="preposit"
000310 A$(11)="article"
000320 A$(12)="adv/verb"
000330 A$(13)="noun/adj"                                                  RT
000340 A$(14)="past participle"                                           RT
000350 A$(15)="to be"                                                     RT
000360 A$(16)="negative"                                                  RT
000370 A$(17)="root word"                                                 RT
000380
000390 F1$=HEX(00140001000100010003A00100010003000B)
000400 ENTER$="ENTER": PF14$ ="PF14":PF15$="PF15":PF16$="PF16"            RT
000410 ATTRIBUTES$="ATTRIBUTES"                                           RT
000420 PSPCTIT$       ="Parts of Speech"
000430 OTHERS$        ="Other Attributes"
000440 X$="X"                                                             RT
000450 F$= "Filename not found on (library/volume)."
000460 ERR1$= "I/O ERROR - Please respecify a COMMON word list."
000470 HEADER$      ="CRES PRINT BY ATTRIBUTE SUBSYSTEM"
000480 E2$= "   Please specify a COMMON word list."                       JM
000490 FIL$           ="Common Word List"
000500 CALL "EXTRACT" ADDR("RV",RVOL$,"RL",RLIB$,"IL",ILIB$,"IV",IVOL$, ! JM
000510         "SL",SLIB$,"SV",SVOL$)                                     JM
000520 FILE$="CMNWDLST"
000530         G$=HEX(81)                                                 JM
000540         MSG$=" ":L$=HEX(81)
000550         V$=HEX(81): M$=HEX(8D)
000560
000570 FILMNU:
```

Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

```
000580 ACCEPT                                                            :
000590        AT (01,01),                                                :
000600 "CRES: Print Common Words by Attribute Subsystem",                : JM
000610        AT (01,57),                                                :
000620 "(File Selection Screen)",                                        :
000630        AT (02,01),                                                :
000640 "=================================================================:
000650 ===============",                                                 :
000660        AT (04,17),                                                :
000670 "Welcome to the",                                                 :
000680        AT (04,28), FAC(HEX(85)),                                  :
000690 HEADER$,                                                          :
000700        AT (07,14),                                                :
000710 "Please specify the",                                             :
000720        AT (07,33), FAC(HEX(84)),                                  :
000730 FIL$,                                                             :
000740        AT (07,50),                                                :
000750 "you want to print,",                                             : JM
000760        AT (08,18),                                                :
000770 "if the default values are not satisfactory.",                    :
000780        AT (13,30),                                                :
000790 "File     =",                                                     :
000800        AT (13,43),FAC(G$),FILE$          , CH(08),                :
000810        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  :
000820        AT (14,30),                                                :
000830 "Library  =",                                                     :
000840        AT (14,43),FAC(L$), ILIB$         , CH(08),                : JM
000850        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  :
000860        AT (15,30),                                                :
000870 "Volume   =",                                                     :
000880        AT (15,43),FAC(V$), IVOL$         , CH(06),                :
000890        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  :
000900        AT (18,24), FAC(M$), MSG$,                                 :
000910        AT (20,30),"Press",                                        : RT
000920        AT (20,36),FAC(HEX(84)),                                   : RT
000930 ENTER$,                                                           : RT
000940        AT(20,42),                                                 : RT
000950 "to continue",                                                    :
000960        AT (21,17),"Press",                                        : JM
000970        AT (21,23), FAC(HEX(84)),                                  : JM
000980 PF16$,                                                            :
000990        AT (21,28),                                                : JM
001000 "to return to the Common List Word Menu",                         : JM
001010 ON (BIN(16)&BIN(32)) GOTO OUT,OUT                                   RT
001030
001040 M$=HEX(8D)
001041                                                                     JM
001050 /* SET UP THE USER FILE BLOCK */
001060
001070 SELECT #1,"COMMON",VARC,INDEXED,RECSIZE=40,KEYPOS=1,KEYLEN=20,    :
001080           IOERR GOTO IOERR1
001090
001100 SELECT #2,"PRTFILE",PRINTER,RECSIZE=80,IOERR GOTO IOERR1
001110
001120 /* SEE IF THE SPECIFIED FILE EXISTS */
001130
001140 CALL "LIMITS"(FILE$,ILIB$,IVOL$,CODE$,MSG$)                         JM
```

```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

001150 IF CODE$="Y" THEN ZZZ
001160 IF CODE$="N" THEN GOSUB'7(F$,HEX(91),HEX(81),HEX(81))
001170 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))
001180 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))
001190 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))
001200 GOTO FILMNU
001210
001220 /* IF WE FALL HERE, OUR FILE EXISTS - BUT IS IT COMMON WORDS? */   JM
001230
001240 ZZZ: CALL "READFDR" ADDR(FILE$,ILIB$,IVOL$,0%,"RS",RAG%,RET%)      JM
001250      IF RAG%=40 THEN ZZ1                                           JM
001260      GOSUB'7(E2$,HEX(91),HEX(81),HEX(81))                          JM
001261      GOTO FILMNU                                                   JM
001270 ZZ1: OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = ILIB$,     ! JM
001280      VOLUME = IVOL$
001290
001300      READ #1,IOBUFF$, DATA GOTO IOERR2
001310      IF STR(IOBUFF$,,13)=" COMMON WORDS" THEN YES
001320      CLOSE #1
001330      M$=HEX(94)
001340      MSG$= ERR1$
001350      GOTO FILMNU
001360 YES:
001370 X$="X": RTFL=0: FOR I=1 TO 17: I$(I)=" ":NEXT I                    RT
001380
001390 ACCEPT                                                           ! RT
001400        AT (01,03),                                               ! RT
001410 "CRES: Print Common Words by Attribute Subsystem  (Attribute Sele! JM
001420 ction Screen)",                                                  ! RT
001430        AT (02,03),                                               ! RT
001440 "================================================================! RT
001450 =============",                                                  ! RT
001460        AT (04,03),                                               ! RT
001470 "  Place an",                                                    ! RT
001480        AT (04,14),FAC(HEX(85)),X$, CH(01),                       ! RT
001490        AT (04,16),                                               ! RT
001500 "beside the attribute or combination of attributes to be printed.! RT
001510 ",                                                               ! RT
001520        AT (05,03),                                               ! RT
001530 "If you choose a part of speech which is included in a combinatio! RT
001540 n, then the",                                                    ! RT
001550        AT (06,03),                                               ! RT
001560 "combination will also be printed. (e.g. If adverb is selected th! RT
001570 en adv/verbs",                                                   ! RT
001580        AT (07,03),                                               ! RT
001590 "will printed as well as the adverbs.)  If the root word option i! RT
001600 s selected in",                                                  ! RT
001610        AT (08,03),                                               ! RT
001620 "combination with another attribute, then only root words with th! RT
001630 at attribute",                                                   ! RT
001640        AT (09,03),                                               ! RT
001650 "will be printed.",                                              ! RT
001660        AT (11,37), FAC(HEX(AD)),         ATTRIBUTES$    , CH(10),! RT
001670        AT (13,14), FAC(HEX(AC)),         PSPCTIT$       , CH(15),! RT
001680        AT (13,55), FAC(HEX(AC)),         OTHERS$        , CH(16),! RT
001690        AT (14,05),                                               ! RT
001700 "adjective",                                                     ! RT
```

```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

001710          AT (14,18), FAC(HEX(81)),         T$(1)          , CH(01), ! RT
001720          AT (14,24),                                               ! RT
001730 "noun/verb",                                                       ! RT
001740          AT (14,36), FAC(HEX(81)),         T$(8)          , CH(01), ! RT
001750          AT (14,55),                                               ! RT
001760 "past participle",                                                 ! RT
001770          AT (14,71), FAC(HEX(81)),         T$(14)         , CH(01), ! RT
001780          AT (15,05),                                               ! RT
001790 "verb",                                                            ! RT
001800          AT (15,18), FAC(HEX(81)),         T$(2)          , CH(01), ! RT
001810          AT (15,24),                                               ! RT
001820 "adverb",                                                          ! RT
001830          AT (15,36), FAC(HEX(81)),         T$(9)          , CH(01), ! RT
001840          AT (15,55),                                               ! RT
001850 "to be",                                                           ! RT
001860          AT (15,71), FAC(HEX(81)),         T$(15)         , CH(01), ! RT
001870          AT (16,05),                                               ! RT
001880 "conjunction",                                                     ! RT
001890          AT (16,18), FAC(HEX(81)),         T$(3)          , CH(01), ! RT
001900          AT (16,24),                                               ! RT
001910 "preposition",                                                     ! RT
001920          AT (16,36), FAC(HEX(81)),         T$(10)         , CH(01), ! RT
001930          AT (16,55),                                               ! RT
001940 "negative",                                                        ! RT
001950          AT (16,71), FAC(HEX(81)),         T$(16)         , CH(01), ! RT
001960          AT (17,05),                                               ! RT
001970 "adj/verb",                                                        ! RT
001980          AT (17,18), FAC(HEX(81)),         T$(4)          , CH(01), ! RT
001990          AT (17,24),                                               ! RT
002000 "article",                                                         ! RT
002010          AT (17,36), FAC(HEX(81)),         T$(11)         , CH(01), ! RT
002020          AT (17,55),                                               ! RT
002030 "root word",                                                       ! RT
002040          AT (17,71), FAC(HEX(81)),         T$(17)         , CH(01), ! RT
002050          AT (18,05),                                               ! RT
002060 "noun",                                                            ! RT
002070          AT (18,18), FAC(HEX(81)),         T$(5)          , CH(01), ! RT
002080          AT (18,24),                                               ! RT
002090 "adv/verb",                                                        ! RT
002100          AT (18,36), FAC(HEX(81)),         T$(12)         , CH(01), ! RT
002110          AT (19,05),                                               ! RT
002120 "pronoun",                                                         ! RT
002130          AT (19,18), FAC(HEX(81)),         T$(6)          , CH(01), ! RT
002140          AT (19,24),                                               ! RT
002150 "noun/adj",                                                        ! RT
002160          AT (19,36), FAC(HEX(81)),         T$(13)         , CH(01), ! RT
002170          AT (20,05),                                               ! RT
002180 "interjection",                                                    ! RT
002190          AT (20,18), FAC(HEX(81)),         T$(7)          , CH(01), ! RT
002200          AT (21,24), FAC(M$),              MSG$           , CH(45), ! RT
002210          AT (23,30),                                               ! RT
002220 "Press",                                                           ! RT
002230          AT (23,36), FAC(HEX(85)),         ENTER$         , CH(05), ! RT
002240          AT (23,42),                                               ! RT
002250 "to continue",                                                     ! RT
002260          AT (24,17),                                               ! JM
002270 "Press",                                                           ! RT
```

```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

002280        AT (24,23), FAC(HEX(84)),         PF16$         , CH(04), ! JM
002290        AT (24,28),                                                ! JM
002300 "to return to the Common Word List Menu",                         ! JM
002310 KEYS(BIN(0)&BIN(16)&BIN(32)),                                     ! JM
002320 ON (BIN(16)&BIN(32)) GOTO EXIT,EXIT                                 JM
002330
002340 MSG$=" ":M$=HEX(8D): K=0
002350 FOR I = 1 TO 17                                                    RT
002360  PSN=POS(" X"=T$(I))
002370  IF PSN=0 THEN INPTER
002380  IF PSN=2 THEN K=1
002390 NEXT I
002400 IF K=1 THEN 2460                                                   JM
002410 IF K=0 AND T$(17)="X" THEN RTFL=2 ELSE INPTER                      RT
002420 GOTO 2460                                                          JM
002430 INPTER: MSG$="Please use only 'X' to mark attributes."
002440 M$=HEX(94): GOTO YES
002450
002460 IF T$(1)<>"X" THEN 2480         /*If adj was marked then        */ JM
002470      T$(4)="X": T$(13)="X"      /*also print adj/verb & noun/adj*/ RT
002480 IF T$(2)<>"X" THEN 2510         /*If verb was marked then also  */ JM
002490      T$(4)="X": T$(8)="X": T$(12)="X"/*print adj/verb, noun/verb*/ RT
002500                                 /* & adv/verb                   */ RT
002510 IF T$(5)<>"X" THEN 2530         /*If noun was marked then also  */ JM
002520      T$(8)="X": T$(13)="X"      /*print noun/verb & noun/adj    */ RT
002530 IF T$(9)="X" THEN T$(12)="X"    /*If adv was marked then also   */ RT
002540                                 /*print adv/verb                */ RT
002550                                                                    RT
002560 FOR I =14 TO 16: IF T$(I)="X" THEN T$(I)="*" ELSE T$(I)="$":NEXT I RT
002570 IF K=1 AND T$(17)="X" THEN RTPL=1                                  RT
002580 /* This section of code generates another screen, which asks    */ JM
002590 /* for the particular word interval and the corresponding       */ JM
002600 /* print  operation.  The user is given the option of returning */
002610 /* to the previous screen to select new attributes to print,    */ JM
002620 /* or of returning to the common word list menu.                */ JM
002630
002640
002650 ER$ =" "
002660 CWMENU:
002670 WORD$ = " "
002680 LPP%          =50
002690 PF15$         ="PF15"
002700 PF16$         ="PF16"
002710 SBTITLE$      =" "
002720 SBTITL1$      =" "
002730 BALONEY:
002740      TP$           ="TERMINAL"
002750      STARTPH$      ="FIRST"
002760      ENDPH$        ="LAST"
002770 PRINTSCR:
002780 ACCEPT                                                            !
002790        AT (01,03),                                                !
002800 "CRES: Print Common Words by Attribute Subsystem",                ! JM
002810        AT (01,66),                                                !
002820 "(Print Screen)",                                                 !
002830        AT (02,03),                                                !
002840 "=================================================================!
```

```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

002850 ==============",                                              :
002860          AT (04,13),                                          :
002870 "To print a range of lines, fill in the information below.",  :
002880          AT (06,02), FAC(HEX(85)),                            :
002890  ER$,                                                         :
002900          AT (08,22),                                          :
002910 "Subtitle of list =",                                         :
002920          AT (08,42), FAC(HEX(81)),SBTITLE$,CH(20),            :
002930          AT (09,42), FAC(HEX(81)),SBTITL1$,CH(20),            :
002940          AT (12,22),                                          :
002950 "Starting word    =",                                         :
002960          AT (12,42),FAC(HEX(81)), STARTPH$, CH(20),           :
002970          RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),            :
002980          AT (13,22),                                          :
002990 "Ending word      =",                                         :
003000          AT (13,42), FAC(HEX(81)), ENDPH$, CH(20),            :
003010          RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),            :
003020          AT (14,22),                                          :
003030 "Lines per page   =",                                         :
003040          AT (14,42), FAC(HEX(82)), LPP%, PIC(##),             :
003050          AT (17,22),                                          :
003060 "Print at (TERMINAL/PRINTER) =",                              :
003070          AT (17,53), FAC(HEX(81)), TP$, CH(08),               :
003080          AT (22,32),                                          : JM
003090 "Press",                                                      :
003100          AT (22,38), FAC(HEX(85)), ENTER$  , CH(05),          : JM
003110          AT (22,44),                                          : JM
003120 "to print",                                                   :
003130          AT (23,24),                                          : JM
003140 "Press",                                                      :
003150          AT (23,30),FAC(HEX(85)),PF15$,CH(04),                : JM
003160          AT (23,35), "to select new attributes",              : JM
003170          AT (24,19),                                          :
003180 "Press",                                                      :
003190          AT (24,25), FAC(HEX(84)),.PF16$, CH(04),             :
003200          AT (24,30),                                          :
003210 "to return to Common Word List Menu",                         :
003220 KEYS(BIN(0)&BIN(16)&BIN(32)&BIN(15)&BIN(31)),                 : JM
003230 ON (BIN(16)&BIN(32)&BIN(15)&BIN(31)) GOTO EXIT,EXIT,YES,YES     JM
003240                                                                 JM
003250                IF STR(TP$,1,1) = "P" THEN NEXT11
003260                IF STR(TP$,1,1) <> "T" THEN TERMPR
003270 NEXT11:        IF LPP% < 51 THEN NEXT13
003280                ER$="'Lines per page' can be at most 50."
003290                GOTO PRINTSCR
003300
003310 IOERR1:  PRINT
003320          PRINT BELL,HEX(94),ERR1$
003330          CLOSE #1
003340          FOR I=1 TO 200000 :NEXT I
003350          GOTO FILMNU
003360
003370 TERMPR:
003380 ER$="'Print at ' has only legal values TERMINAL or PRINTER."
003390      GOTO PRINTSCR
003400
003410 REX: ER$="            'Starting word' comes after 'Ending word'."
```

```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

003420      GOTO PRINTSCR
003430
003440
003450 IOERR2:  PRINT
003460          PRINT HEX(94),"Error occurred on file "; FILE$
003470          PRINT HEX(94),"Error code = "; FS(#1)
003480          STOP "Touch ENTER to return to menu."
003490          GOTO CWMENU
003500
003510 NEXT13: IF STARTPH$="FIRST" OR ENDPH$="LAST" THEN FORD
003520         IF STARTPH$>ENDPH$ THEN REX
003530
003540 /* Now it's time to generate our print file name */
003550
003560 FORD:   DAT$= DATE
003570         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)
003580         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)
003590
003600         PFILE$="CATRIB##"
003610         I%=0
003620 NEXT14: CONVERT I% TO STR(PFILE$,7,2),PIC(00)
003630         I%=I%+1
003640         CALL "LIMITS" (PFILE$,SLIB$,SVOL$,CODE$,MSG1$)           JM
003650         IF CODE$="Y" THEN NEXT14
003652         IF CODE$="E" THEN ER$ = STR(MSG$,3)
003654         IF CODE$="E" THEN PRINTSCR
003660 DISPLAY                                                         : JM
003670        AT (01,03),                                              :
003680 "CRES: Print Common Words by Attribute Subsystem",              : JM
003690        AT (01,61),                                              :
003700 "(Generation Screen)",                                          : JM
003710        AT (02,03),                                              :
003720 "===============================================================:
003730 ============",                                                  :
003740         AT (12,23),                                             :
003750 "Output file now being generated!"                                JM
003760         OPEN NOGETPARM #2,OUTPUT,FILE=PFILE$,LIBRARY=SLIB$,     : JM
003770             VOLUME=SVOL$,SPACE=15000                              JM
003780         GOSUB TTL_PGE
003790         IF STARTPH$ = "FIRST" THEN STARTPH$ = ALL(HEX(00))
003800         IF ENDPH$ = "LAST" THEN ENDPH$ = ALL(HEX(FF))
003810         PAGE% = 1
003820         RECS% = 1
003830         READ #1, KEY>=STARTPH$,IOBUFF$
003840         IF STR(IOBUFF$,1,20)>ENDPH$ THEN HOME
003850         IF STR(IOBUFF$,1,20)=" COMMON WORDS" THEN AGAN
003860 KNOT:   IF RTFL<>1 THEN 3880                                      JM
003870         IF STR(IOBUFF$,26,1)<>"*" THEN AGAN
003880         PSN= POS("JVCjNOInAPBad"= STR(IOBUFF$,21,1))              RT
003890         IF T$(PSN)="X" THEN 3950                                  JM
003900         IF T$(14)=STR(IOBUFF$,22,1) THEN 3950                     JM
003910         IF T$(15)=STR(IOBUFF$,24,1) THEN 3950                     JM
003920         IF T$(16)=STR(IOBUFF$,23,1) THEN 3950                     JM
003930         IF RTFL=2 AND STR(IOBUFF$,26,1)="*" THEN 3950             JM
003935         IF T$(17)="X" AND STR(IOBUFF$,26,1)="*" THEN 3950         JM
003940         GOTO AGAN
003950         IF RECS% = 1 THEN GOSUB HEADER
```

```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

003960         IF STR(TP$,1,1)="T" THEN BUG
003970      WRITE #2, USING IMG6,C$, " ",STR(IOBUFF$,1,20),                 !
003980            A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,24,1),              !
003990            STR(IOBUFF$,23,1)                                           RT
004000         IF(STR(IOBUFF$,26,1)<>"*")THEN BAG
004010         IF RTFL <> 0 THEN BAG
004020         C$=HEX(0000)
004030         WRITE #2, USING IMG9, C$,STR(IOBUFF$,1,20)
004040         WRITE #2, USING IMG9, C$,STR(IOBUFF$,1,20)
004050         C$=HEX(0001)
004060         GOTO BAG
004070 BUG: IF STR(IOBUFF$,26,1)="*" THEN STR(IOBUFF$,26,1)="+"
004080      WRITE #2, USING IMG6,C$,STR(IOBUFF$,26,1),STR(IOBUFF$,1,20),!
004090            A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,24,1),              !
004100            STR(IOBUFF$,23,1)                                           RT
004110 BAG:    RECS%=RECS%+1
004120         IF RECS%>LPP% THEN RECS%=1
004130         IF RECS%=1 THEN PAGE%=PAGE%+1
004140 AGAN:   READ #1, IOBUFF$,EOD GOTO HOME
004150         IF STR(IOBUFF$,1,20)>ENDPH$ THEN HOME
004160         GOTO KNOT
004170 HOME:   IF RECS%=1 THEN RECS%=51
004180         WRITE #2, USING TIT, C$
004190         RECS%=RECS%+2
004200         WRITE #2, USING DG, C$
004210         FOR I = RECS% TO LPP%+1
004220         WRITE #2, USING TIT, C$
004230         NEXT I
004240         IF STR(TP$,1,1)="P" THEN HER1
004250         WRITE #2, USING IMG8, C$
004260         GOTO HER
004270 HER1:   IF RTFL<>0 THEN HER: WRITE #2, USING RT, HEX(0002)
004280         C$=HEX(0000)
004290         FOR I=1 TO 2
004300         WRITE #2, USING RT1, C$ ,
004310         NEXT I
004320         C$=HEX(0001)
004330 HER:    CLOSE #2
004340         IF STR(TP$,1,1) ="P" THEN MESS
004350         CLOSE WS
004360         MSG2$ = "CANCEL Processing"
004370         MSK$=HEX(00)
004380         CMSG$ = " "
004390        CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,     ! JM
004400          SLIB$,SVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)       JM
004410         ER$ = " "
004420         IF C%<>0 OR R%<>0                                          !
004430         THEN ER$ = STR(CMSG$,141)
004440         GOTO CWMENU
004450
004460 MESS: ER$="          File "&PFILE$&" in Library "& SLIB$ &" on " & ! JM
004470  SVOL$ &" generated."                                                 JM
004480         GOTO BALONEY
004490
004560 TTL_PGE:
004570        C$=HEX(8001)
004580        WRITE #2, USING TIT, C$
```

```
004590         C$ = HEX(0012)
004600         WRITE #2, USING TIT, C$
004610         C$ = HEX(0001)
004620         WRITE #2, USING TIT1, C$
004630         WRITE #2, USING TIT2, C$
004640         WRITE #2, USING TIT0, C$,D$,T$
004650         WRITE #2, USING TIT3, C$
004660         WRITE #2, USING TIT2, C$
004670         WRITE #2, USING TIT1, C$
004680         WRITE #2, USING TIT2, C$
004690         IF SBTITLE$ = "                          " THEN GERRY
004700         WRITE #2, USING TIT4, C$, SBTITLE$
004710         IF SBTITL1$<>"                         " THEN WRITE #2, USING  :
004720 TIT10, C$, SBTITL1$
004730         WRITE #2, USING TIT2, C$
004740 GERRY:  WRITE #2, USING TIT5, C$, FILE$
004750         WRITE #2, USING TIT2, C$
004760         WRITE #2, USING TIT6, C$, ILIB$                                JM
004770         WRITE #2, USING TIT2, C$
004780         WRITE #2, USING TIT7, C$, IVOL$
004790         WRITE #2, USING TIT2, C$
004800         WRITE #2, USING TIT8, C$, STARTPH$
004810         WRITE #2, USING TIT2, C$
004820         WRITE #2, USING TIT9, C$, ENDPH$
004830         FOR I= 1 TO 17
004840          IF T$(I)="X" OR T$(I)="*"  THEN FIRSTAT
004850         NEXT I
004860 FIRSTAT: WRITE #2,USING TIT2,C$: WRITE #2,USING TIT11,C$,A$(I)
004870         FOR K= I+1 TO 17
004880     IF T$(K)="X" OR T$(K)="*" THEN WRITE #2, USING TIT12, C$,A$(K)
004890         NEXT K
004900         WRITE #2, USING TIT2, C$
004910         WRITE #2, USING TIT1, C$
004920         RETURN
004930
004940 HEADER:
004950         IF PAGE%=1 THEN FIRST
004960         C$ = HEX(0001)
004970         IF STR(TP$,1,1)="P" THEN FRST1
004980         WRITE #2, USING TIT, C$
004990         WRITE #2, USING IMG8, C$
005000         GOTO FIRST
005010 FRST1:  IF RTFL<>0 THEN FIRST
005020         WRITE #2, USING RT, HEX(0002)
005030         C$=HEX(0000)
005040         FOR I=1 TO 2
005050         WRITE #2, USING RT1, C$
005060         NEXT I
005070 FIRST:  C$ = HEX(8001)
005080         WRITE #2, USING TIT, C$
005090         C$ = HEX(0001)
005100         IF SBTITLE$ = "                    "                   :
005110         THEN WRITE #2, USING IMG,C$,D$,T$,PAGE%                :
005120         ELSE GOTO FOUT
005130         GOTO ALRITE
005140 FOUT:   WRITE #2, USING IMG1,C$,SBTITLE$,D$,T$,PAGE%
005150         IF SBTITL1$<>"                    "                    :
```

```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

005160        THEN WRITE #2, USING IMG7,C$,SBTITL1$
005170 ALRITE: WRITE #2, USING IMG2, C$, FILE$, ILIB$, IVOL$               JM
005180        WRITE #2, USING IMG3, C$
005190        WRITE #2, USING IMG4, C$
005200        WRITE #2, USING IMG5, C$
005210        WRITE #2, USING IMG3, C$
005220        RETURN
005230
005240 TIT0:%##          !   ########                                  !
005250     #####   !
005260 TIT: %##
005270 DG:%##   !!! END OF LISTING !!!
005280 TIT1:%##          !-------------------------------------------!
005290 ------------!
005300 TIT2:%##          !                                           !
005310             !
005320 TIT3:%##          !              ******   COMMON WORD LIST   ****!
005330 *           !
005340 TIT4:%##          !              TITLE OF LIST:  ################!
005350 ####        !
005360 TIT5:%##          !              INPUT FILE:     ########        !
005370             !
005380 TIT6:%##          !              INPUT LIBRARY:  ########        !
005390             !
005400 TIT7:%##          !              INPUT VOLUME:   ######          !
005410             !
005420 TIT8:%##          !              STARTING WORD:  ################!
005430 ####        !
005440 TIT9:%##          !              ENDING WORD:    ################!
005450 ####        !
005460 TIT10:%##          !                              ###############!
005470 #####        !
005480 TIT11:%##          !             ATTRIBUTES SPECIFIED:  #########!
005490 ######       !
005500 TIT12:%##          !                                    #########!
005510 ######       !
005520 IMG:%## ########                            #####                !
005530          PAGE #####
005540 IMG1:%## TITLE OF LIST : ####################     ########       !
005550 #####      PAGE #####
005560 IMG7:%##                 ####################
005570 IMG2:%## Input File is ######## in Library ######## on Volume ###!
005580 ###
005590 IMG3:%##=====================================================!
005600 ====================
005610 IMG4:%##   WORD                  Part of          Past          To ! RT
005620 Be    Negative                                                     RT
005630 IMG5:%##                          Speech       Participle          RT
005640                                                                    RT
005650 IMG6:%## # #################### ##########          #           #! RT
005660          #                                                         RT
005670 IMG9:%##   ####################
005680 IMG8:%## + = ROOT WORD
005690 RT:%##   BOLDFACE = Root Word
005700 RT1:%##   BOLDFACE
005710
005720 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */
```

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```
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Input File is CRES@CPA in Library CRES@SRC on Volume CRES02

005730 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */
005740 DEF FN'7(MSG$,B$,C$,D$)
005750       PRINT
005760       M$=HEX(94)
005770       G$=B$
005780       L$=C$
005790       V$=D$
005800 RETURN
005810
005820 EXIT: CLOSE #1
005830 OUT:  /* RETURNING TO COMMON WORD LIST MENU */                      JM
```

TECHNICAL WORD LIST SUBSYSTEM

Create/Maintain Technical Word List Menu (CRES@SWL)

CRES@SWL in library CRES@PRC is the Procedure Language menu routine that serves as the driver for the Create/Maintain Technical Word List Subsystem. It enables the user to select by PF key among options to create/maintain any technical word list, to print a technical word list, to print a technical word list by attribute, or to return to the CRES Master Menu.

A complete listing follows.

```
Wang VS Integrated Editor - Version  6.10.00       16:28 11/13/84    Page      1
Input File is CRES@SWL in Library CRES@PRC on Volume CRES01

*                                                                        RT  000100
         PROCEDURE   CRES SUPPLEMENTARY WORD LIST MENU                   RT  000200
*        AUTHOR      ROSE TANK                                           RT  000300
*        DATE        10/07/83                                            RT  000400
*                                                                        RT  000500
*        Abstract: This procedure is a subsystem of CRES Master Menu     RT  000600
*                  (option 2 - Create/Maintain Technical Word            RT  000700
*                  Lists).                                               RT  000800
*                  It allows the user to select and run any              RT  000900
*                  Technical word list file option.                      RT  001000
*                                                                        RT  001100
         DECLARE         &USERINPT AS INTEGER      INITIAL  0            RT  001200
         DECLARE       &OPTIONERR  AS STRING (79) INITIAL "       "      RT  001300
         DECLARE       &OPTIONERR2 AS STRING (79) INITIAL "       "      RT  001400
         DECLARE        &USERNAME  AS STRING (24) INITIAL "       "      RT  001500
         DECLARE          &ERRMSG  AS STRING (34) INITIAL "       "      RT  001600
         DECLARE          &RUNLIB  AS STRING  (8) INITIAL "       "      JM  001700
         DECLARE          &RUNVOL  AS STRING  (6) INITIAL "     "        JM  001800
*                                                                        RT  001900
         EXTRACT /&USERNAME=USERNAME, &RUNVOL=RUNVOL, &RUNLIB=OUTLIB     JM  002000
*                                                                        RT  002100
GETUSERINPT:   PROMPT  PFKEY = &USERINPT   CENTER                        RT  002200
      DIM "CRES: Technical Word List Subsystem               (Technica RT  002300
l Word Menu Screen)";                                                    RT  002400
      DIM "========================================================= RT  002500
==================";                                                     RT  002600
      DIM " ";" ";                                                       RT  002700
      DIM "  Use the appropriate",BRIGHT " PF key"," to select the desi RT  002800
red operation.";                                                         RT  002900
      DIM " ";" ";                                                       RT  003000
      DIM "                   ",LINE "PF",DIM "  ",                      RT  003100
      LINE                       "                     Operation         RT  003200
        ";                                                                   003300
      DIM " ";                                                           RT  003400
      DIM "                    ",Bright "1"," - Create/Maintain Technical W RT  003500
ord List";                                                               RT  003600
      DIM "                    ",Bright "2"," - Print Technical Word List"; RT  003700
      DIM "                    ",Bright "3"," - Print Technical Words by At RT  003750
tribute";                                                                    003755
      DIM " ";                                                           RT  003800
      DIM "                   ",Bright "16"," - Return to CRES Master Menu" RT  003900
;     DIM " ";" ";" ";" ";" ";" ";" ";                                   RT  004000
      BRIGHT &OPTIONERR;                                                 RT  004100
      BLINK  &OPTIONERR2;                                                RT  004200
*                                                                        RT  004300
         ASSIGN     &ERRMSG = " "                                        RT  004400
         ASSIGN     &OPTIONERR = " "                                     RT  004500
         ASSIGN     &OPTIONERR2 = " "                                    RT  004600
*                                                                        RT  004700
         IF     &USERINPT EQ 16                     GOTO USEREXIT        RT  004800
         IF     &USERINPT EQ 32                     GOTO USEREXIT        RT  004900
         IF     &USERINPT EQ 1                      GOTO RUNTWL          RT  005000
         IF     &USERINPT EQ 17                     GOTO RUNTWL          RT  005010
         IF     &USERINPT EQ 2                      GOTO RUNTWP          RT  005100
         IF     &USERINPT EQ 18                     GOTO RUNTWP              005110
         IF     &USERINPT EQ 3                      GOTO RUNPBA          RT  005120
         IF     &USERINPT EQ 19                     GOTO RUNPBA              005130
```

```
Wang VS Integrated Editor - Version  6.10.00       16:28 11/13/84   Page      2
Input File is CRES@SWL in Library CRES@PRC on Volume CRES01

                                                                      RT  005200
                ASSIGN &OPTIONERR = "I'm sorry, but your selected option RT  005300
 is not currently available."                                         RT  005400
                ASSIGN &OPTIONERR2 = "Please select another topic."   RT  005500
                GOTO GETUSERINPT                                      RT  005600
*                                                                     RT  005700
RUNTWL:     RUN CRES@TWL IN &RUNLIB ON &RUNVOL                        RT  005800
            IF   RUNTWL EQ 0        GOTO GETUSERINPT                  RT  005900
            GOTO USEREXIT                                             RT  006000
*                                                                     RT  006100
RUNTWP:     RUN CRES@TWP IN &RUNLIB ON &RUNVOL                        RT  006110
            IF   RUNTWP EQ 0        GOTO GETUSERINPT                  RT  006120
            GOTO USEREXIT                                             RT  006130
*                                                                     RT  006140
RUNPBA:     RUN CRES@TPA IN &RUNLIB ON &RUNVOL                        RT  006150
            IF   RUNPBA EQ 0        GOTO GETUSERINPT                  RT  006160
            GOTO USEREXIT                                             RT  006170
*                                                                     RT  006180
USEREXIT:       RETURN                                                RT  006200
```

Create/Maintain Technical Word List (CRES@TWL)

CRES@TWL in library CRES@SRC is the BASIC language program to create/maintain the technical word lists. The object language version is CRES@TWL in library CRES@SAV.

The Technical Word List Subsystem was included to provide for the situation where there is a body of technical terminology which would be considered uncommon in normal usage, but which is commonly encountered when discussing a particular subject. These words can be included on a technical word list which can be used to supplement the Common Word List when analyzing text dealing with that subject. Any words found on the specified technical word list(s) will be considered "common". As many as seven technical word lists can be specified for inclusion in an analysis.

This program first allows the user to specify the technical word list to be created or maintained. The program then enables the user to add, delete, or modify any given word. A provision is made for clearing the protect bytes, if for some reason those bytes have been left set incorrectly.

The only characters accepted in the input word are the letters A through Z, ".", "-", and "'". There can be no embedded blanks. The data record for each word contains information about the word's attributes: the part of speech (see Table 1), the past participle flag, the negative flag, the form of the verb "to be" flag, and the root word flag. A complete data record description is provided in appendix A.

The program provides for a protection override. A protection capability was included to accommodate multiple users on the system. When a word on any of the CRES word lists is being modified by one user, the protection bytes for the word are set to that user's ID. No other user can access that word while the protection bytes are set. If an attempt is made by one user to access a word protected by another user, a message specifying the user and workstation protecting the word is displayed. When the word is released, the protection bytes are automatically cleared. To provide for the possibility of the system going down, a power failure, or an irregular exit leaving a word with its protection bytes still set, the program contains a protection override capability. For a given user to override the protection, either the word had to be protected under that user's ID, or the user protecting the word has to be no longer logged on to the computer.

A complete program listing follows. Appendix C contains a sample flowchart.

```
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Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

000010 /*  CRES TECHNICAL WORD LIST MAINTENANCE SUBSYSTEM PROGRAM      */  RT
000020 /*                                                              */  RT
000030 /*                AUTHORS: Rose Tank and John Mears             */  RT
000040 /*                Date:    October 12, 1983                     */  RT
000050 /*                                                              */  RT
000060 /* This program was developed to maintain the technical word    */  RT
000070 /* lists, as well as allow for the creation of new lists.       */  JM
000080 /* It is designed to insert, delete, and modify any word in     */  RT
000090 /* any technical word list.                                     */  JM
000150 /* Each technical word list is similar in composition to the    */  JM
000160 /* common word list.  This subsystem has been expanded to       */  JM
000170 /* handle multiusers by use of protection bytes set in the      */  JM
000180 /* record of the word to be modified. There is an override      */  JM
000190 /* facility available within the program itself that operates  */  JM
000200 /* on the condition that the user's id, which is extracted      */  JM
000210 /* from the system, matches the protection bytes.  In the case */  JM
000220 /* where the user attempts to modify a word currently con-      */  JM
000230 /* trolled by another, a message is given identifing the user  */  JM
000240 /* and his/her location -by workstation number.                 */  RT
000250 /*                                                              */  RT
000260 /* The record layout for the technical word list is as follows:*/  RT
000270 /*                                                              */  RT
000280 /*  character position      identifier          variable name   */  RT
000290 /*          1-20       ==> word                  WORD$          */  RT
000300 /*          21         ==> part of speech        PRTOFSPC$      */  RT
000310 /*          22         ==> past participle       PPARTFL$       */  RT
000320 /*          23         ==> negative              NEGFL$         */  RT
000330 /*          24         ==> to be flag            TOBEFL$        */  RT
000340 /*          25         ==> filler                               */  RT
000350 /*          26         ==> root word             ROOTFL$        */  RT
000360 /*          27         ==> Mandatory tech. word  MWLFL$         */  RT
000370 /*          29-31      ==> protection byte       PROTECT$       */  RT
000380 /*          32-40      ==> filler for future additions          */  RT
000390 /*                                                              */  RT
000400 /* The words are stored in an indexed file with the key being   */  JM
000410 /* the word itself.                                             */  JM
000420                                                                     RT
000430                                                                     RT
000440 DIM WORD$20,ERR1$50,CODE$1,MSG$50,F$40,G$1,PROTECT$3,WID$52         JM
000450 DIM F1$20,IOBUFF$40,ER1$50,XYZ$1,EXP$30,F2$10,NOEXIST$66, E$1       JM
000460 DIM PFK$4,TAB$3,BTAB$7,FILE$8,USER$3,USERNAME$24,WRKST$3            RT
000470 DIM LIB$8,FIL$19,IVOL$6,PF$3,DEF$7,A5$10,LEG$5,A7$7,MESSG$21        RT
000480 DIM HEADER$50,L$1,V$1,B$1,C$1,D$1,M$1,MOD$15,PF16$4,ER$66           JM
000490 DIM ENTER$5,PF1$3,P$(13)3,PASSWRD$13,X$1,MESING$14                  JM
000500 DIM PPARTFL$1,DNEGFL$1,MWLFL$1,ROOTFL$01,TOBEFL$01                  RT
000510 DIM PRTOFSPC$3                                                      RT
000520                                                                     RT
000530 ENTER$="ENTER"                                                      RT
000540 PF1$="PF1": PF16$="PF16"                                            RT
000550 TAB$="TAB"                                                          RT
000560 BTAB$="BACKTAB"                                                     RT
000570 EXP$="(Definition of Entries Screen)"                               JM
000580 MESSG$="Parts of Speech Codes"                                      RT
000590 P$(1)="(J)":P$(2)="(j)":P$(3)="(A)":P$(4)="(a)":P$(5)="(B)"         RT
000600 P$(6)="(C)":P$(7)="(I)":P$(8)="(N)":P$(9)="(n)":P$(10)="(P)"        RT
000610 P$(11)="(O)":P$(12)="(V)":P$(13)="(d)"                              RT
000620 ITLE5$        ="PART_OF_SPEECH"                                     JM
```

```
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Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

000630 ITLE6$        ="DEFINITION"                                           JM
000640                                                                       RT
000650 /* The following two lines are used as formats in the packing */     RT
000660 /* and the unpacking of record field values                   */     RT
000670 F1$=HEX(A014A001A001A001A0010001A001A0010001A0030009)                 RT
000680 F2$=HEX(001CA0030009)                                                 RT
000690                                                                       RT
000700 /* The following code sets up a screen, which asks for the     */    RT
000710 /* name of the file containing the technical word list that is */    RT
000720 /* to be modified.  It also provides the opportunity to change */    RT
000730 /* the library and volume names which are set to the appro-    */    RT
000740 /* priate defaults through the "Extract" system routine.       */    RT
000750 F$= "Filename not found on (library/volume)."                         RT
000760 ERR1$= "I/O ERROR - Please specify a TECHNICAL word list"             RT
000770 CALL "EXTRACT" ADDR("IL",LIB$,"IV",IVOL$,"ID",USER$)                  JM
000780                                                                       JM
000790 AGAIN:  FILE$="        ":G$=HEX(81)                                   RT
000800         MSG$="                                          ":L$=HEX(81)  RT
000810         V$=HEX(81): M$=HEX(8D)                                        RT
000820 HEADER$       ="CRES TECHNICAL WORD LIST MAINTENANCE SUBSYSTEM"       RT
000830 FIL$      ,   ="Technical Word List"                                  RT
000840                                                                       RT
000850 BLANKS: FILE$=" "                                                     JM
000860 FILMNU:                                                               RT
000870 ACCEPT                                                              ! RT
000880          AT (01,01),                                                ! RT
000890 "CRES: Technical Word List Maintenance Subsystem",                  ! RT
000900          AT (01,58),                                                ! RT
000910 "(File Selection Screen)",                                          ! RT
000920          AT (02,01),                                                ! RT
000930 "=================================================================! RT
000940 ===============",                                                   ! RT
000950          AT (04,10),                                                ! RT
000960 "Welcome to the",                                                   ! RT
000970          AT (04,25), FAC(HEX(85));                                  ! JM
000980 HEADER$,                                                            ! RT
000990          AT (07,07),                                                ! RT
001000 "Please specify the",                                               ! RT
001010          AT (07,26), FAC(HEX(84)),                                  ! RT
001020 FIL$,                                                               ! RT
001030          AT (07,46),                                                ! RT
001040 "you want to modify or create.",                                    ! RT
001050          AT (13,30),                                                ! RT
001060 "File     =",                                                       ! RT
001070          AT (13,43),FAC(G$),FILE$          , CH(08),                ! RT
001080          RANGE ( "!      "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
001090          AT (14,30),                                                ! RT
001100 "Library  =",                                                       ! RT
001110          AT (14,43),FAC(L$), LIB$          , CH(08),                ! RT
001120          RANGE ( "!      "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
001130          AT (15,30),                                                ! RT
001140 "Volume   =",                                                       ! RT
001150          AT (15,43),FAC(V$), IVOL$         , CH(06),                ! RT
001160          RANGE ( "!      "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
001170          AT (18,24), FAC(M$), MSG$,                                 ! RT
001180          AT (20,30),"Press",                                        ! RT
001190          AT (20,36),FAC(HEX(84)),                                   ! RT
```

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Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

001200 ENTER$,                                                          : RT
001210        AT(20,42),                                                : RT
001220 "to continue",                                                   : RT
001230        AT (21,15),"Press",                                       : RT
001240        AT (21,21), FAC(HEX(84)),                                 : RT
001250 PF16$,                                                           : RT
001260        AT (21,26),                                               : RT
001270 "to return to the Technical Word List Menu",                     : RT
001280 ON (BIN(16)&BIN(32)) GOTO OUT,OUT                                  RT
001290                                                                    RT
001300 MSG$=" ": M$=HEX(8C)                                               RT
001310                                                                    RT
001320 /* SET UP THE USER FILE BLOCK */                                   RT
001330                                                                    RT
001340 SELECT #1,"TECHWD",VARC,INDEXED,RECSIZE=40,KEYPOS=1,KEYLEN=20,   : RT
001350           IOERR GOTO IOERR1                                        RT
001360                                                                    RT
001370 /* SEE IF THE SPECIFIED FILE EXISTS */                             RT
001380 /* Y- the file exists & the program may continue              */   RT
001390 /* N- the file doesn't currently exist, you may create one    */   RT
001400 /* V- the volume supplied doesn't exist or is not mounted     */   RT
001410 /* L- the library supplied doesn't exist in the volume given  */   RT
001420 /* E- there is an I/O error in the file specified             */   RT
001430                                                                    RT
001440 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,MSG$)                         RT
001450 IF CODE$="Y" THEN RECCK                                            RT
001460 IF CODE$="N" THEN CREATE                                           RT
001470 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))     RT
001480 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))     RT
001490 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))     RT
001500 GOTO FILMNU                                                        RT
001510                                                                    RT
001520 /* The following screen allows the user to create an additional */ RT
001530 /* technical word list,or respecify the file information entered*/ RT
001540 CREATE:                                                            RT
001550 ACCEPT                                                           : RT
001560 "CRES: Technical Word List Maintenance Subsystem",               : RT
001570        AT (01,53),                                               : RT
001580 "(Create File Option Screen)",                                   : RT
001590        AT (02,01),                                               : RT
001600 "================================================================: RT
001610 ===============",                                                : RT
001620        AT (06,08),                                               : RT
001630 "The file you have selected does not currently exist in the libra: RT
001640 ry",                                                             : RT
001650        AT (07,08),                                               : RT
001660 "and volume specified. For your convenience, the following are ",: JM
001670        AT (08,08),                                               : RT
001680 "the parameters you submitted:",                                 : JM
001690        AT (11,30),                                               : RT
001700 "File   =",                                                      : RT
001710        AT (11,40),FAC(HEX(85)),FILE$         , CH(08),           : RT
001720        AT (12,30),                                               : RT
001730 "Library=",                                                      : RT
001740        AT (12,40), FAC(HEX(85)), LIB$         , CH(08),          : RT
001750        AT (13,30),                                               : RT
001760 "Volume =",                                                      : RT
```

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Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

001770        AT (13,40), FAC(HEX(85)), IVOL$       , CH(06),             : RT
001780        AT (17,15),                                                 : RT
001790 "To create a new file from these parameters, press",              : JM
001800        AT (17,65), FAC(HEX(85)),  ENTER$         , CH(05),        : RT
001810        AT (19,26),                                                 : RT
001820 "To select another file, press",                                   : JM
001830        AT (19,56), FAC(HEX(85)),  PF1$           , CH(03),        : RT
001840 KEYS(BIN(0)&BIN(1)&BIN(17)),KEY(OPTION),                           : RT
001850 ON (BIN(1)&BIN(17)) GOTO BLANKS,BLANKS                               JM
001860                                                                      RT
001870 /* Create the new file and insert a header record to identify it*/ RT
001880          OPEN NOGETPARM #1, OUTPUT, FILE= FILE$, LIBRARY=LIB$,     : RT
001890          VOLUME= IVOL$, SPACE=1000                                   RT
001900          IOBUFF$= " TECHNICAL WORDS    "& FILE$                      RT
001910          WRITE #1, IOBUFF$                                           RT
001920          CLOSE #1                                                    RT
001930          GOTO ZZ1                                                    JM
001940                                                                      RT
001950 /* Check the record size before opening the file to avoid  */       JM
001960 /* accidently causing an error by opening a file with incorrect */ JM
001961 /* record'size.                                                */ JM
001970 RECCK: CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,0%,"RS",RSIZ%,RET%)     RT
001980       IF RSIZ%<>40 THEN ZZ2                                          JM
001990 ZZ1: OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,        : JM
002000       VOLUME = IVOL$                                                 RT
002010                                                                      RT
002070       READ #1, IOBUFF$                                               JM
002080       IF STR(IOBUFF$,1,16)=" TECHNICAL WORDS" THEN YES               RT
002090       CLOSE #1                                                       JM
002100 ZZ2: M$=HEX(94)                                                      JM
002110       MSG$= ERR1$                                                    RT
002120       GOTO FILMNU                                                    RT
002130 YES: IOBUFF$=" "                                                     RT
002140 /* This section of code generates the second screen, which asks */ RT
002150 /* for the particular word and its corresponding operation -    */ JM
002160 /* either insert word, delete word, or modify word. The user is */ RT
002170 /* also at this point given the option of returning to the      */ JM
002180 /* Technical Word List Menu.                                    */ JM
002190                                                                      RT
002200 WID$="Please select the word:"                                       RT
002210 WORD$,ER$,ER1$=" "                                                   RT
002220 WORDEQ$="word = "                                                    RT
002230 PFK$=" PF "                                                          RT
002240 OPER$="   Operation"                                                 RT
002250 O$="1":T$="2":TH$="3":Q$="14":R$="15":S$="16"                        RT
002260 NOEXIST$="The word you are attempting to modify does not exist"& : RT
002270              " in this list."                                        RT
002280 X$=HEX(81)                                                           JM
002290  E$=HEX(84)                                                          RT
002300 PASSWRD$=HEX(000102030E0F101112131E1F20)                             JM
002310                                                                      RT
002320 CWMENU:                                                              RT
002330 ACCEPT                                                             : RT
002340     AT (01,01),"CRES: Technical Word List Maint Subsystem",        : RT
002350       AT (01,49), "(Word & Option Selection Screen)",              : RT
002360       AT (02,01), "===============================================: RT
002370 ===================================",                               : RT
```

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Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

002380          AT (04,08), FAC(HEX(8C)),                                  : RT
002390 WID$,                                                               : RT
002400          AT (06,28), FAC(HEX (8C)),                                 : RT
002410 WORDEQ$ ,                                                           : RT
002420          AT (06,36), FAC(X$),WORD$          , CH(20),               : JM
002430          AT (08,15), FAC( E$), ER$,                                 : JM
002440          AT (09,23), FAC( E$), ERI$,                                : RT
002450          AT (11,08),                                      "To cont: RT
002460 inue, select the PF key corresponding to the desired operation.",: RT
002470          AT (13,30), FAC(HEX(A5)),                                  : RT
002480 PFK$ ,                                                              : RT
002490          AT (13,38), FAC(HEX(AC)),                                  : RT
002500 OPER$,                                                              : RT
002510          AT (15,31), FAC(HEX(84)),                                  : RT
002520 O$ ,                                                                : RT
002530          AT (15,39),                                                : RT
002540 "INSERT word",                                                      : RT
002550          AT (16,31), FAC(HEX(84)),                                  : RT
002560 T$ ,                                                                : RT
002570          AT (16,39),                                                : RT
002580 "DELETE word",                                                      : RT
002590          AT (17,31), FAC(HEX(84)),                                  : RT
002600 TH$,                                                                : RT
002610          AT (17,39),                                                : RT
002620 "MODIFY word",                                                      : RT
002630          AT (19,31), FAC(HEX(84)),                                  : RT
002640 Q$,                                                                 : RT
002650          AT (19,39),                                                : RT
002660 "Protection Override",                                              : RT
002670          AT (20,31), FAC(HEX(84)),                                  : RT
002680 R$  ,                                                               : RT
002690          AT (20,39),                                                : RT
002700 "Return to Technical Word List Selection",                          : RT
002710          AT (21,31), FAC(HEX(84)),                                  : RT
002720 S$  ,                                                               : RT
002730          AT (21,39),                                                : RT
002740 "Return to Technical Word List Menu",                               : RT
002750 KEYS(PASSWRD$),                                                     : JM
002760      KEY(OPTION)                                                      JM
002771 IF OPTION=15 OR OPTION=31 THEN NEW                                    JM
002772 IF OPTION=16 OR OPTION=32 THEN EXIT                                   JM
002780                                                                       RT
002790 FOR I=1 TO LEN(WORD$)
002800  IF POS(".'ABCDEFGHIJKLMNOPQRSTUVWXYZ-"=STR(WORD$,I,1))=0           : JM
002810                    THEN ILLERR
002820 NEXT I
002830
002840  E$= HEX(80)                                                          RT
002850 ER$,ERI$=" "                                                          RT
002860                                /* Check for confirmation of deletion */  RT
002870 IF (OPTION=0)AND(DF=1) THEN DEL                                       RT
002880                                /* Check for cancellation of deletion  */ JM
002890 IF DF=1 THEN UPDATE                                                   RT
002900                              /* Check for override of protection byte */ RT
002910 IF (OPTION=14) OR (OPTION=30) THEN OVERRIDE                           RT
002920 IF STR(WORD$,1,1)<>" " THEN REED                                      RT
002930                                                                       RT
```

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Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

002940 PRINT BELL                                                          RT
002950 ER$="        The first character cannot be blank."
002960 ER1$= "Please reenter the appropriate word and PF key."                RT
002970  E$= HEX(94)                                                        RT
002980 GOTO CWMENU                                                         RT
002990                                                                     RT
003000 ILLERR:
003010 ER$="Illegal character found in word - please reenter."
003020  E$=HEX(94): GOTO CWMENU                                            RT
003030
003040 OVERRIDE:                                                           RT
003050 IF NF=1 AND P%=1 THEN CHK                                           RT
003060 ER$= "Please check if word exists by selecting an option."          RT
003070  E$=HEX(84)                                                         RT
003080 GOTO  CWMENU                                                        RT
003090                                                                     RT
003100 /* Protection override is confirmed if the protection was set */   RT
003110 /* by a user not currently logged on or if the current user's */   RT
003120 /* id equals the protection bytes.                              */   JM
003130 CHK:                                                                RT
003140 IF (USER$=PROTECT$) OR (WRKST%=-1) THEN REMOVE                      RT
003150   ER$= "You don't have the clearance to override the protect."      RT
003160   ER1$=" "                                                          RT
003170    E$= HEX(84)                                                      RT
003180 GOTO CWMENU                                                         RT
003190                                                                     RT
003200 /* Reset the protection bytes to blanks */                          JM
003210 REMOVE: PROTECT$= " ":P%=0                                          RT
003220          READ #1, HOLD, KEY=WORD$,IOBUFF$                           RT
003230          $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOFSPC$, PPARTFL$,   ! RT
003240             DNEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                 RT
003250          REWRITE #1, IOBUFF$, DATA GOTO IOERR2                      RT
003260          ER$= "            You may now select your option."         RT
003270          ER1$= " "                                                  RT
003280           E$= HEX(84)                                               RT
003290         GOTO CWMENU                                                 RT
003300                                                                     RT
003310 IOERR1:  PRINT                                                      RT
003320          M$=HEX(94)                                                 RT
003330          MSG$= ERR1$                                                RT
003340          CLOSE #1                                                   RT
003350          GOTO FILMNU                                                RT
003360                                                                     RT
003370 IOERR2:  PRINT                                                      RT
003380          PRINT HEX(94),"Error occurred on file "; FILE$             RT
003390          PRINT HEX(94),"Error code = "; FS(#1)                      RT
003400          STOP "Touch ENTER to return to menu."                      RT
003410          GOTO CWMENU                                                RT
003420                                                                     RT
003430 /* Error message is printed if "ENTER" was hit before the option*/ RT
003440 /* was entered                                                  */ RT
003450 REED: IF OPTION<>0 THEN SRCH                                        RT
003460 ER$= "Operation missing - Please select a PF key."                  JM
003470  E$= HEX(94)                                                        RT
003480 GOTO CWMENU                                                         RT
003490                                                                     RT
003500 SRCH: P%=1                                                          RT
```

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Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

003510        READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,          : RT
003520                DATA GOTO IOERR2                                     RT
003530                                                                     RT
003540       NF=1  /* The word was found */                                RT
003550                                                                     RT
003560      /* Unpack and check if currently being modified by another */  RT
003570                                                                     RT
003580          $UNPACK (F=F1$) IOBUFF$ TO WORD$,PRTOFSPC$,PPARTFL$,     : RT
003590                DNEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$              RT
003600          IF PROTECT$= " " THEN NOW                                  RT
003610            CALL "FINDUSER" ADDR(PROTECT$,USERNAME$,WRKST%)          RT
003620            CONVERT WRKST% TO WRKST$, PIC(###)                       RT
003630             E$= HEX(94)                                             RT
003640            ER$="      Sorry, "& USERNAME$ &" is currently editing " RT
003650            ER1$="       '"& WORD$ & "'" & " at workstation "& WRKST$ RT
003660            REWRITE #1,IOBUFF$                                       RT
003670            GOTO CWMENU                                              RT
003680                                                                     RT
003690 /* Set the protection bytes */                                      JM
003700 NOW:      PROTECT$= USER$                                           RT
003710          $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOFSPC$, PPARTFL$,   : RT
003720              DNEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                RT
003730           REWRITE #1, IOBUFF$, DATA GOTO IOERR2                     RT
003740                                                                     RT
003750       /* NOW BRANCH TO THE OPTION SELECTED */                       RT
003760 OPT:  ON OPTION GOTO INSERT,DELET,MODIFY                            RT
003770       ON OPTION-16 GOTO INSERT,DELET,MODIFY                         RT
003780                                                                     RT
003790 NOTFOUND: NF=0  /* The word was not found in the list */            RT
003800           GOTO OPT                                                  RT
003810                                                                     RT
003820 INSERT:                                                             RT
003830         /* NF=0 indicates the word doesn't yet exist so go ahead */ RT
003840         /* and insert. NF=1 indicates the word exists.         */   RT
003850                                                                     RT
003860          IF NF=1 THEN EXIST                                         RT
003870          MOD$= "(Insert Screen)"                                    RT
003871          MESING$="inserting word"                                   JM
003880       MWLFL$,PPARTFL$,PRTOFSPC$,DNEGFL$,ROOTFL$,TOBEFL$ =" "        RT
003890          IOBUFF$=" ":  PROTECT$= USER$                              RT
003900          $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOFSPC$, PPARTFL$,   : RT
003910             DNEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                 RT
003920          WRITE #1, IOBUFF$, DATA GOTO IOERR2                        RT
003930          GOTO INS                                                   RT
003940                                                                     RT
003950 /* Coming from insert with the word currently existing, */          RT
003960 /* print an error message and erase the protection byte */          RT
003970 EXIST:                                                              RT
003980        ER$= "The word '" & WORD$ & "' already exists in this list." RT
003990         E$= HEX(94)                                                 RT
004000        READ #1, HOLD, KEY= WORD$,IOBUFF$                            RT
004010        PROTECT$=" " :P%=0                                           RT
004020        $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOFSPC$, PPARTFL$,     : RT
004030            DNEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                  RT
004040        REWRITE #1, IOBUFF$, DATA GOTO IOERR2                        RT
004050        GOTO CWMENU                                                  RT
004060                                                                     RT
```

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Wang VS Integrated Editor - Version  6.10.00       15:49 10/30/84   Page     8
Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

004070 /* DELET,DEL,NODEL- all pertain to the delete option */            RT
004080 /* DELET- gives the user a chance to cancel the deletion */        RT
004090 DELET: IF NF=0 THEN NODEL                                          RT
004100        DF=1                                                        RT
004110        ER$= "          Press ENTER to confirm deletion of "& WORD$ RT
004120        ER1$="    or press PF14 to cancel deletion."                  JM
004130        PASSWRD$=HEX(000E1E)                                        JM
004140         X$=HEX(84)                                                 JM
004150         E$= HEX(94)                                                RT
004160        GOTO CWMENU                                                 RT
004170                                                                    RT
004180 /* DEL- deletes the entire record */                               RT
004190 DEL:   READ #1, HOLD,KEY=WORD$,IOBUFF$                             RT
004200        DELETE #1                                                   RT
004210        DF=0                                                        RT
004220    ER$= "    '"&WORD$&"' deleted - Please select your next word."  RT
004230        WID$="                Updating "&FILE$&" Technical Word List" JM
004240         E$= HEX(8C)                                                RT
004250        WORD$=" "                                                   RT
004260        NF=0                                                        JM
004270        PASSWRD$=HEX(000102030E0F101112131E1F20)                    JM
004280        X$=HEX(81)                                                  JM
004290        GOTO CWMENU                                                 RT
004300                                                                    RT
004310 /* NODEL- print an error message when the word doesn't exist */    RT
004320 NODEL: ER$= "The word '"& WORD$ & "' does not exist in this list." RT
004330         E$= HEX(94)                                                RT
004340        GOTO CWMENU                                                 RT
004350                                                                    RT
004360 MODIFY: IF NF=1 THEN GETIT                                         RT
004370         ER$ = NOEXIST$        /* if word not in list,  */          RT
004380          E$=HEX(94)           /* set up message and fac and */     RT
004390         GOTO CWMENU           /* go back up to previous screen */  RT
004400                                                                    RT
004410 GETIT:                                                             JM
004440 MOD$           ="(Modify Screen)"                                  RT
004441 MESING$="modifying word"                                           JM
004450 INS:                                                               RT
004460 PF$            ="PF1"                                              RT
004470 DEF$           ="CURRENT"                                          RT
004480 A5$            ="ATTRIBUTES"                                       RT
004490 LEG$           ="LEGAL"                                            RT
004500 A7$            ="ENTRIES"                                          RT
004510 ER1$           =" "                                                RT
004520 XYZ$           =HEX(8C)                                            RT
004530                                                                    RT
004540 /* This accept statement generates a screen with the attributes */ RT
004550 /* corresponding to each word appropriately labeled for insert  */ RT
004560 /* or modification. It also calls a second screen on request if */ RT
004570 /* there is a need for an explanation of the legal entries for  */ RT
004580 /* the parts of speech.                                          */ JM
004590                                                                    RT
004600 AOK:                                                               RT
004610                                                                    RT
004620 ACCEPT                                                           : RT
004630        AT (01,01),                                               : RT
004640 "CRES: Technical Word List Maintenance Subsystem",               : RT
```

```
004650        AT (01,66), FAC(HEX(8C)),MOD$,                                      ! RT
004660        AT (02,01), "==============================================! RT
004670 ====================================",                                     ! RT
004680        AT (03,07),                                                         ! RT
004690 "For an explanation of legal entries, press",                              ! JM
004700        AT (03,50),FAC(HEX(84)), PF$ ,                                      ! RT
004710        AT (03,54),                                                         ! JM
004720 "; otherwise, enter",                                                      ! RT
004730        AT (04,07),                                                         ! RT
004740 "the appropriate attribute(s).",                                           ! RT
004750        AT (06,33),FAC(HEX(AD)), DEF$ ,                                     ! RT
004760        AT (06,41),FAC(HEX(AD)), A5$  ,                                     ! RT
004770        AT (06,58),FAC(HEX(AD)), LEG$ ,                                     ! RT
004780        AT (06,64),FAC(HEX(AD)), A7$  ,                                     ! RT
004790        AT (08,07),                                                         ! RT
004800 "WORD:",                                                                   ! RT
004810        AT (08,15),FAC(HEX(84)), WORD$,                                     ! RT
004820        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                          ! RT
004830        AT (08,61),                                                         ! RT
004840 "(A-Z.-')",                                                                ! JM
004850        AT (10,07),                                                         ! RT
004860 "PART OF SPEECH:",                                                         ! RT
004870        AT (10,41),FAC(HEX(80)),PRTOFSPC$, CH(01),                          ! RT
004880        AT (10,57),                                                         ! RT
004890 "(ABCIJNOPVadjn)",                                                         ! RT
004900        AT (11,07),                                                         ! RT
004910 "PAST PARTICIPLE:",                                                        ! RT
004920        AT (11,41), PPARTFL$      , CH(01),                                 ! RT
004930        AT (11,57),                                                         ! RT
004940 "(* or NO ENTRY)",                                                         ! RT
004950        AT (12,07),                                                         ! RT
004960 "NEGATIVE:",                                                               ! RT
004970        AT (12,41), DNEGFL$       , CH(01),                                 ! RT
004980        AT (12,57),                                                         ! RT
004990 "(* or NO ENTRY)",                                                         ! RT
005000        AT (13,07),                                                         ! RT
005010 "TO BE:",                                                                  ! RT
005020        AT (13,41), TOBEFL$       , CH(01),                                 ! RT
005030        AT (13,57),                                                         ! RT
005040 "(* or NO ENTRY)",                                                         ! RT
005050        AT (14,07),                                                         ! RT
005060 "MANDATORY TECHNICAL WORD:",                                               ! RT
005070        AT (14,41), MWLFL$        , CH(01),                                 ! RT
005080        AT (14,57),                                                         ! RT
005090 "(* or NO ENTRY)",                                                         ! RT
005100        AT (15,07),                                                         ! RT
005110 "ROOT WORD:",                                                              ! RT
005120        AT (15,41), ROOTFL$, CH(01),                                        ! RT
005130        AT (15,57),                                                         ! RT
005140 "(* or NO ENTRY)",                                                         ! RT
005150        AT (17,25),FAC(XYZ$),ER1$,                                          ! RT
005160        AT (20,17),"Use",FAC(HEX(85)),TAB$,"or",FAC(HEX(85)),               ! RT
005170        BTAB$,"to move between modifiable fields.",                         ! RT
005180        AT (23,30),                                                         ! RT
005190 "Press",                                                                   ! RT
005200        AT (23,36),FAC(HEX(84)),ENTER$,                                     ! RT
005210        AT (23,42),                                                         ! RT
```

```
005220 "to continue",                                                    ! RT
005230          AT (24,21),                                              ! JM
005240 "Press" ,AT(24,27),FAC(HEX(84)), PF16$    ,AT(24,32),             ! JM
005250 "to exit without ",                                               ! JM
005251          AT (24,48), FAC(HEX(8C)), MESING$,                       ! JM
005260 KEYS(BIN(0)&BIN(1)&BIN(17)&BIN(16)&BIN(32)),KEY(OPTION),          ! RT
005270 ON (BIN(16)&BIN(32)) GOTO EXIOM,EXIOM                               RT
005280                                                                     RT
005310 IF OPTION=1 OR OPTION=17 THEN DEFIN                                 RT
005320                                                                     RT
005330 /*  Check for validity of entries  */                               RT
005340                                                                     RT
005350           IF POS("ABCIJNOPVadjn"=PRTOFSPC$)>0 THEN NEXT1            RT
005360           ER1$ = "Part of Speech value is illegal."                 RT
005370           XYZ$ = HEX(94)                                            RT
005380           GOTO AOK                                                  RT
005390                                                                     RT
005400 NEXT1:    IF POS(" *"=PPARTFL$)>0 THEN NEXT2                        RT
005410           ER1$ = "Past Participle value is illegal."                RT
005420           XYZ$ = HEX(94)                                            RT
005430           GOTO AOK                                                  RT
005440 NEXT2:    IF POS(" *"=DNEGFL$)>0 THEN NEXT3                         RT
005450           ER1$ = "   Negative value is illegal."                    RT
005460           XYZ$ = HEX(94)                                            RT
005470           GOTO AOK                                                  RT
005480 NEXT3:    IF POS(" *"=TOBEFL$)>0 THEN NEXT4                         RT
005490           ER1$ = "     To Be value is illegal."                     JM
005500           XYZ$ = HEX(94)                                            RT
005510           GOTO AOK                                                  RT
005560 NEXT4:    IF POS(" *"=MWLFL$)>0 THEN NEXT5                          RT
005570           ER1$ = "Mandatory word value is illegal."                 RT
005580           XYZ$ = HEX(94)                                            RT
005590           GOTO AOK                                                  RT
005600 NEXT5:    IF POS(" *"=ROOTFL$)>0 THEN UPDATE                        RT
005610           ER1$ = "  Root word value is illegal."                    RT
005620           XYZ$ = HEX(94)                                            RT
005630           GOTO AOK                                                  RT
005640                                                                     RT
005650 /* EXIOM is used to abnormally exit the insert mode and */          RT
005660 /* NOCHAN is used to abnormally exit the modify mode    */          RT
005670 EXIOM:  READ #1, HOLD,KEY=WORD$,IOBUFF$                             RT
005680         IF NF=1 THEN NOCHAN                                         RT
005690         DELETE #1                                                   RT
005700         ER$= "                Word "&WORD$&" was not inserted."     RT
005710         GOTO CWMENU                                                 RT
005720                                                                     RT
005730 NOCHAN: PROTECT$ = " " :P%=0                                        RT
005740         $PACK (F=F2$) IOBUFF$ FROM PROTECT$                         RT
005750         REWRITE #1,IOBUFF$,DATA GOTO IOERR2                         RT
005760         ER$= "                    No changes were saved."           RT
005770         ER1$=" "                                                    RT
005780         GOTO CWMENU                                                 RT
005790                                                                     RT
005800 /* UPDATE removes the protection on the record and writes out */    RT
005810 /* the final data as inputted.                                */    RT
005820 UPDATE: READ #1, HOLD, KEY=WORD$, IOBUFF$                           RT
005830         PROTECT$ = " " :P%=0                                        RT
```

```
005840          $PACK (F=F1$) IOBUFF$ FROM WORD$,PRTOFSPC$,PPARTFL$,      : RT
005850              DNEGFL$,TOBEFL$,ROOTFL$,MWLFL$,PROTECT$                 RT
005860          REWRITE #1,IOBUFF$,DATA GOTO IOERR2                         RT
005870          ER1$= " "
005880          IF NF=0 THEN RITE      /* NF=0 indicates insert mode */     RT
005890          IF DF=1 THEN EXDEL     /* DF=1 indicates delete mode */     RT
005900         WID$="               Updating "&FILE$&" Technical Word List" JM
005910 ER$="        '"&WORD$&"' updated - Please select next word."          JM
005920           E$=HEX(8C)                                                 RT
005930          WORD$=" "                                                   RT
005940          GOTO CWMENU                                                 RT
005950 RITE:                                                                RT
005960 ER$= "    '"&WORD$&"' inserted - Please select your next word."      RT
005970         WID$="               Updating "&FILE$&" Technical Word List" JM
005980           E$= HEX(8C)                                                RT
005990          WORD$=" "                                                   RT
006000          GOTO CWMENU                                                 RT
006010                                                                      RT
006020 EXDEL: DF=0                                                          RT
006030        ER$ ="                 Deletion cancelled."                   RT
006040        PASSWRD$=HEX(000102030E0F101112131E1F20)                      JM
006050        X$=HEX(81)                                                    JM
006060        GOTO CWMENU                                                   RT
006070                                                                      RT
006080 NEW: PRINT PAGE, AT(12,28),HEX(84);"Closing last file"               RT
006090      FOR I= 1 TO 50000:NEXT I                                        RT
006100      CLOSE #1                                                        RT
006110      GOTO AGAIN                                                      RT
006120                                                                      RT
006130 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                   RT
006140 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                   RT
006150 DEF FN'7(MSG$,B$,C$,D$)                                              RT
006160      PRINT                                                           RT
006170      M$=HEX(94)                                                      RT
006180      G$=B$                                                           RT
006190      L$=C$                                                           RT
006200      V$=D$                                                           RT
006210 RETURN                                                               RT
006220                                                                      RT
006230 DEFIN:                                                               RT
006240 ACCEPT                                                             :
006250        AT (01,01),                                                 :
006260 "CRES: Technical Word List Maintenance Subsystem",                 :
006270        AT (01,51), FAC(HEX(8C)),                                   : JM
006280 EXP$,                                                              :
006290        AT (02,01),"============================================:
006300 ================================",                                  :
006310        AT (05,08),  FAC(HEX(AD)),        ITLE5$       , CH(14),    : JM
006320        AT (05,49),  FAC(HEX(AD)),        ITLE6$       , CH(10),    : JM
006330        AT (07,03),  FAC(HEX(84)),      P$(1)          , CH(03),    :
006340        AT (07,08),                                                 :
006350 "Adjective .............Modifies a noun or pronoun",               :
006360        AT (08,03), FAC(HEX(84)),       P$(2)          , CH(03),    :
006370        AT (08,08),                                                 :
006380 "Adjective/verb .........A word that may function as an adjective:
006390  or verb",                                                         :
006400        AT (09,03),  FAC(HEX(84)),      P$(3)          , CH(03),    :
```

```
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Input File is CRES@TWL in Library CRES@SRC on Volume CRES02

006410          AT (09,08),                                               :
006420 "Adverb .................Modifies a verb, adjective, or adverb",   :
006430          AT (10,03),  FAC(HEX(84)),       P$(4)           , CH(03),  :
006440          AT (10,08),                                               :
006450 "Adverb/verb ............A word that may function as an adverb or:
006460  verb",                                                            :
006470          AT (11,03), FAC(HEX(84)),        P$(5)           , CH(03),  :
006480          AT (11,08),                                               :
006490 "Article ................A limiting adjective before a noun (e.g.:
006500  a, the)",                                                         :
006510          AT (12,03), FAC(HEX(84)),        P$(6)           , CH(03),  :
006520          AT (12,08),                                               :
006530 "Conjunction ............Links phrases or clauses (e.g. or)",       :
006540          AT (13,03),  FAC(HEX(84)),       P$(7)           , CH(03),  :
006550          AT (13,08),                                               :
006560 "Interjection ...........Used for simple exclamations (e.g. Oh!)":
006570 ,                                                                  :
006580          AT (14,03),  FAC(HEX(84)),       P$(8)           , CH(03),  :
006590          AT (14,08),                                               :
006600 "Noun ...................Indicates a person, place, or thing",      :
006610          AT (15,03),  FAC(HEX(84)),       P$(13)          , CH(03),  :
006620          AT (15,08),                                               :
006630 "Noun/adjective .........A word that may function as a noun or ad:
006640 jective",                                                          :
006650          AT (16,03),  FAC(HEX(84)),       P$(9)           , CH(03),  :
006660          AT (16,08),                                               :
006670 "Noun/verb ..............Word that may function as a noun or verb:
006680 ",                                                                 :
006690          AT (17,03), FAC(HEX(84)),        P$(10)          , CH(03),  :
006700          AT (17,08),                                               :
006710 "Preposition ............Expresses a relationship between two ele:
006720 ments of ",                                                        :
006730          AT (18,08),                                               :
006740 "                        a sentence (e.g. in, on, by, to, since)   :  JM
006750 ",                                                                 :
006760          AT (19,03),  FAC(HEX(84)),       P$(11)          , CH(03),  :
006770          AT (19,08),                                               :
006780 "Pronoun ................Word that may be used as a substitute fo:
006790 r a noun",                                                         :
006800          AT (20,08),                                               :
006810 "                        (e.g. I, you, she, what,....)",           :  JM
006820          AT (21,03),  FAC(HEX(84)),       P$(12)          , CH(03),  :
006830          AT (21,08),                                               :
006840 "Verb ...................Denotes an action or occurrence",         :
006850          AT (23,20),                                               :
006860 "Press",                                                           :
006870          AT (23,26),   FAC(HEX(84)),       PF1$           , CH(03),  :
006880          AT (23,30),                                               :
006890 "to return to the previous screen",                                :
006900  KEYS(BIN(1)&BIN(17)), ON (BIN(1)&BIN(17)) GOTO AOK,AOK
006910 EXIT: CLOSE #1                                                        RT
006920 OUT:  /* RETURNING TO TECHNICAL WORD LIST MENU */                     JM
```

Print Technical Word List (CRES@TWP)

CRES@TWP in library CRES@SRC is the BASIC language program to print the technical word lists. The object language version is CRES@TWP in library CRES@SAV.

This program first allows the user to specify the technical word list to be printed. Then, the program enables the user to print out either the entire technical word list, or a specified portion. This printout can be displayed at the terminal or sent to the printer. An optional subtitle of up to two lines can be included for the printout, and the number of lines per page may be specified as some value less than the default of 50.

A complete program listing follows. Appendix C contains a sample flowchart.

```
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Input File is CRES@IWP in Library CRES@SRC on Volume CRES02

000010 /* This is the CRES TECHNICAL WORD LIST PRINT SUBSYSTEM PROGRAM */ JM
000035 /*                                                              */  RT
000060 /*               AUTHORS: Rose Tank and John Mears              */  RT
000085 /*               Date:    October 12, 1983                      */  RT
000110 /*                                                              */  RT
000135                                                                     RT
000160 /* The following code sets up a screen, which asks for the      */  RT
000185 /* name of the file containing the technical word list          */  RT
000210 /* to be printed.  It also provides the opportunity to change   */  RT
000235 /* the library and volume names which are set to the appro-     */  RT
000260 /* priate defaults through the "Extract" system routine.        */  RT
000285                                                                     RT
000310                                                                     RT
000335 DIM WORD$24,CODE$1,MSG$50,F$40,G$1,CMSG$255,MSG2$40                 RT
000360 DIM IOBUFF$64,EXP$31,PFILE$08,RVOL$06,PF1$3,RLIB$8                  JM
000385 DIM TAB$3,BTAB$7,FILE$08,LIB$08,FIL$19,SVOL$6,SLIB$8                JM
000410 DIM IVOL$06,HEADER$51,L$1,V$1,B$1,C$2,D$8,M$1,MSK$2                 RT
000435 DIM SBTITLE$20,A$(14)10,SBTITL1$20,E2$41                            JM
000460 DIM ENTER$            05                                            RT
000485 DIM PF16$ ,          04                                             RT
000510 DIM ER$            79,MESSG$21                                      RT
000535 DIM STARTPH$       20                                               RT
000560 DIM ENDPH$         20                                               RT
000585 DIM TP$            08                                               RT
000610 DIM PF15$          04                                               RT
000660 A$(1)= "adjective"                                                  RT
000685 A$(2)= "verb"                                                       RT
000710 A$(3)= "conjugate"                                                  RT
000735 A$(4)= "adjec/verb"                                                 RT
000760 A$(5)= "noun"                                                       RT
000785 A$(6)= "pronoun"                                                    RT
000810 A$(7)= "interject"                                                  RT
000835 A$(8)= "noun/verb"                                                  RT
000860 A$(9)= "adverb"                                                     RT
000885 A$(10)="preposit"                                                   RT
000910 A$(11)="article"                                                    RT
000935 A$(12)="adv/verb"                                                   RT
000960 A$(13)="noun/adj"                                                   RT
000985 TAB$="TAB"                                                          RT
001010 BTAB$="BACKTAB"                                                     RT
001035 EXP$="(Explanation of Entries Screen)"                              RT
001060 MESSG$="Parts of Speech Codes"                                      RT
001065 ENTER$="ENTER"                                                      RT
001085 F$= "Filename not found on (library/volume)."                       RT
001090 E2$=" Please specify a TECHNICAL word list."                        JM
001110 CALL "EXTRACT" ADDR("IV",IVOL$,"RV",RVOL$,"IL",LIB$,"RL",RLIB$,   ! JM
001135        "SL",SLIB$,"SV",SVOL$)                                       JM
001160 AGAIN:  FILE$=" ":G$=HEX(81)                                        RT
001185         MSG$=" " :L$=HEX(81)                                        RT
001210         V$=HEX(81): M$=HEX(8D)                                      RT
001235 HEADER$      ="CRES TECHNICAL WORD LIST PRINT SUBSYSTEM"            RT
001260 FIL$           ="Technical Word List"                               JM
001310 PF1$="PF1":PF16$="PF16"                                             RT
001335                                                                     RT
001360 /* Print the first screen at the terminal.  */
001385
001410 FILMNU:                                                             RT
```

```
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Input File is CRES@TWP in Library CRES@SRC on Volume CRES02

001435 ACCEPT                                                            ! RT
001460        AT (01,01),                                                ! RT
001485 "CRES: Technical Word List Print Subsystem",                      ! RT
001510        AT (01,57),                                                ! RT
001535 "(File Selection Screen)",                                        ! RT
001560        AT (02,01),                                                ! RT
001585 "=================================================================! RT
001610 ===============",                                                 ! RT
001635        AT (04,12),                                                ! JM
001660 "Welcome to the",                                                 ! RT
001685        AT (04,28), FAC(HEX(85)),                                  ! JM
001710 HEADER$,                                                          ! RT
001735        AT (07,12),                                                ! JM
001760 "Please specify the",                                             ! RT
001785        AT (07,31), FAC(HEX(84)),                                  ! JM
001810 FIL$,                                                             ! RT
001835        AT (07,51),                                                ! JM
001860 "you want to print.",                                             ! JM
002085        AT (13,30),                                                ! RT
002110 "File     =",                                                     ! RT
002135        AT (13,43),FAC(G$),FILE$         , CH(08),                 ! RT
002160        RANGE ( "!     "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
002185        AT (14,30),                                                ! RT
002210 "Library  =",                                                     ! RT
002235        AT (14,43),FAC(L$), LIB$          , CH(08),                ! RT
002260        RANGE ( "!     "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
002285        AT (15,30),                                                ! RT
002310 "Volume   =",                                                     ! RT
002335        AT (15,43),FAC(V$), IVOL$         , CH(06),                ! RT
002360        RANGE ( "!     "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
002385        AT (18,24), FAC(M$), MSG$,                                 ! RT
002387        AT (20,30),"Press",                                        ! RT
002389        AT (20,36),FAC(HEX(84)),                                   ! RT
002391 ENTER$,                                                           ! RT
002393        AT(20,42),                                                 ! RT
002395 "to continue",                                                    ! JM
002397        AT (21,15),"Press",                                        ! JM
002399        AT (21,21), FAC(HEX(84)),                                  ! JM
002401 PF16$,                                                            ! RT
002403        AT (21,26),                                                ! JM
002405 "to return to the Technical Word List Menu",                      ! JM
002410 ON (BIN(16)&BIN(32)) GOTO OUT,OUT                                   RT
002435                                                                     RT
002460 /* SET UP THE USER FILE BLOCK */                                    RT
002485                                                                     RT
002510 SELECT #1,"TECHFL",VARC,INDEXED,RECSIZE=40,KEYPOS=1,KEYLEN=20,    ! RT
002535           IOERR GOTO IOERR1                                         RT
002560                                                                     RT
002585 SELECT #2,"PRTFILE",PRINTER,RECSIZE=80,IOERR GOTO IOERR1            RT
002610                                                                     RT
002635 /* SEE IF THE SPECIFIED FILE EXISTS */                              RT
002660                                                                     RT
002685 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,MSG$)                          RT
002710 IF CODE$="Y" THEN ZZZ                                               RT
002735 IF CODE$="N" THEN GOSUB'7(F$,HEX(91),HEX(81),HEX(81))               RT
002760 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))      RT
002785 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))      RT
```

```
Wang VS Integrated Editor - Version  6.10.00        11:37 11/09/84   Page      3
Input File is CRES@TWP in Library CRES@SRC on Volume CRES02

002810 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))      RT
002835 GOTO FILMNU                                                          RT
002860                                                                      RT
002885 /* IF WE FALL HERE, IT MUST BE TIME TO OPEN FILE */                  RT
002910                                                                      RT
002915 ZZZ: CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,0%,"RS",RAG%,RET%)         JM
002925      IF RAG%=40 THEN ZZ1                                             JM
002927      GOSUB'7(E2$,HEX(81),HEX(81),HEX(81))                            JM
002929      GOTO FILMNU                                                     JM
002935 ZZ1: OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,        ! JM
002960      VOLUME = IVOL$                                                  RT
002985                                                                      RT
003010      READ #1,IOBUFF$, DATA GOTO IOERR2                               RT
003035      IF STR(IOBUFF$,1,20)= " TECHNICAL WORDS    " THEN YES           JM
003060      CLOSE #1                                                        RT
003085      M$=HEX(94)                                                      RT
003110      MSG$= " Please specify a TECHNICAL word list."                  RT
003135      GOTO FILMNU                                                     RT
003160 YES:                                                                 RT
003185 /* This seqtion of code generates the second screen, which asks */ RT
003210 /* for the particular word interval and its corresponding        */ RT
003235 /* print  operation.  The user is given the option of returning */ RT
003260 /* to the previous screen to select a new word file to print,    */ RT
003285 /* or of returning to the technical word list menu.              */ RT
003310                                                                      RT
003335 ER$ =" "                                                             RT
003360                                                                      RT
003385 CWMENU:                                                              RT
003410       WORD$ = " "                                                    RT
003435       LPP%            =50                                            RT
003460       ENTER$              ="ENTER"                                   RT
003485       PF15$           ="PF15"                                        RT
003510       PF16$           ="PF16"                                        RT
003535       SBTITLE$        =" "                                           RT
003560       SBTITL1$        =" "                                           RT
003585 BALONEY:                                                             RT
003610       STARTPH$        ="FIRST"                                       RT
003635       ENDPH$          ="LAST"                                        RT
003660       TP$             ="TERMINAL"                                    RT
003685 PRINTSCR:                                                            RT
003710 ACCEPT                                                             ! RT
003735        AT (01,03),                                                 ! RT
003760 "CRES: Technical Word List Print Subsystem",                       ! RT
003785        AT (01,66),                                                 ! RT
003810 "(Print Screen)",                                                  ! RT
003835        AT (02,03),                                                 ! RT
003860 "================================================================! RT
003885 =============",                                                    ! RT
003910        AT (04,13),                                                 ! RT
003935 "To print a range of lines, fill in the information below.",      ! RT
003960        AT (06,02), FAC(HEX(85)),                                   ! RT
003985  ER$,                                                              ! RT
004010        AT (08,22),                                                 ! RT
004035 "Subtitle of list =",                                              ! RT
004060        AT (08,42), FAC(HEX(81)),SBTITLE$,CH(20),                   ! RT
004085        AT (09,42), FAC(HEX(81)),SBTITL1$,CH(20),                   ! RT
004110        AT (12,22),                                                 ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00        11:37 11/09/84   Page      4
Input File is CRES@TWP in Library CRES@SRC on Volume CRES02

004135 "Starting word    =",                                                : RT
004160        AT (12,42),FAC(HEX(81)), STARTPH$, CH(20),                    : RT
004185        RANGE ( "!     "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                    : RT
004210        AT (13,22),                                                   : RT
004235 "Ending word      =",                                                : RT
004260        AT (13,42), FAC(HEX(81)), ENDPH$, CH(20),                     : RT
004285        RANGE ( "!     "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                    : RT
004310        AT (14,22),                                                   : RT
004335 "Lines per page   =",                                                : RT
004360        AT (14,42), FAC(HEX(82)), LPP%, PIC(##),                      : RT
004385        AT (17,22),                                                   : RT
004410 "Print at (TERMINAL/PRINTER) =",                                     : RT
004435        AT (17,53), FAC(HEX(81)), TP$, CH(08),                        : RT
004460        AT (22,32),                                                   : RT
004485 "Press",                                                             : RT
004510        AT (22,38), FAC(HEX(85)), ENTER$   , CH(05),                  : RT
004535        AT (22,44),                                                   : RT
004560 "to print",                                                          : RT
004585        AT (23,18),                                                   : JM
004610 "Press",   ,                                                         : RT
004635        AT (23,24), FAC(HEX(84)), PF15$, CH(04),                      : JM
004660        AT (23,29),                                                   : JM
004685 "to select another Technical Word List",                             : JM
004710        AT (24,18),                                                   : JM
004735 "Press",                                                             : RT
004760        AT (24,24), FAC(HEX(84)), PF16$, CH(04),                      : JM
004785        AT (24,29),                                                   : JM
004810 "to return to Technical Word List Menu",                             : RT
004835 KEYS(BIN(0)&BIN(15)&BIN(16)&BIN(31)&BIN(32)),                        : RT
004860 ON (BIN(15)&BIN(31)&BIN(16)&BIN(32)) GOTO NEW,NEW,EXIT,EXIT            RT
004885
004910 /*  Make sure parameters input are correct  */
004935
004960              IF STR(TP$,1,1) = "P" THEN NEXT11                         RT
004985              IF STR(TP$,1,1) <> "T" THEN TERMPR                        RT
005010 NEXT11:      IF LPP% < 51 THEN NEXT13                                  RT
005035              ER$="'Lines per page' can be at most 50."                 RT
005060              GOTO PRINTSCR                                             RT
005085                                                                        RT
005110 IOERR1:  PRINT    /* This loop used if I/O error  */                   RT
005135          PRINT BELL,HEX(94)                                            RT
005160          CLOSE #1                                                      RT
005185          FOR I=1 TO 200000 :NEXT I                                     RT
005210          GOTO FILMNU                                                   RT
005235                                                                        RT
005260 TERMPR:                                                                RT
005285 ER$="'Print at ' has only legal values TERMINAL or PRINTER."           RT
005310      GOTO PRINTSCR                                                     RT
005335                                                                        RT
005360 REX: ER$="         'Starting word' comes after 'Ending word'."         RT
005385      GOTO PRINTSCR                                                     RT
005410                                                                        RT
005435                                                                        RT
005460 IOERR2:  PRINT                                                         RT
005485          PRINT HEX(94),"Error occurred on file "; FILE$                RT
005510          PRINT HEX(94),"Error code = "; FS(#1)                         RT
005535          STOP "Touch ENTER to return to menu."                         RT
```

```
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Input File is CRES@TWP in Library CRES@SRC on Volume CRES02

005560          GOTO CWMENU                                             RT
005585                                                                  RT
005610 NEXT13: IF STARTPH$="FIRST" OR ENDPH$="LAST" THEN FORD           RT
005635         IF STARTPH$>ENDPH$ THEN REX                              RT
005660                                                                  RT
005685 /* Now it's time to generate our print file name */              RT
005710                                                                  RT
005735 FORD:   DAT$= DATE                                               RT
005760         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)    RT
005785         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)                      RT
005810                                                                  RT
005835 DISPLAY                                                        ! JM
005860        AT (01,03),                                             !
005885 "CRES: Technical Word List Print Subsystem",                   ! JM
005910        AT (01,61),                                             !
005935 "(Generation Screen)",                                         ! JM
005960        AT (02,03),                                             !
005985 "==============================================================!
006010 =============",                                                !
006035         AT ,(12,23),                                           !
006060 "Output file now being generated!"                               JM
006085         PFILE$="TECHWD##"                                        RT
006110         I%=0                                                     RT
006135 NEXT14: CONVERT I% TO STR(PFILE$,7,2),PIC(00)                    RT
006160         I%=I%+1                                                  RT
006210         CALL "LIMITS" (PFILE$,SLIB$,SVOL$,CODE$,MSG$)            JM
006235         IF CODE$="Y" THEN NEXT14                                 RT
006245         IF CODE$="E" THEN ER$ = STR(MSG$,3)                      JM
006255         IF CODE$="E" THEN PRINTSCR                               JM
006260         OPEN NOGETPARM #2,OUTPUT,FILE=PFILE$,LIBRARY=SLIB$,    ! JM
006285             VOLUME=SVOL$,SPACE=12000                             JM
006310                                                                  JM
006335         GOSUB TTL_PGE                                            JM
006360         IF STARTPH$ ="FIRST" THEN READ #1,KEY>" TECHNICAL WORDS",! JM
006385           IOBUFF$  ELSE READ #1, KEY>STARTPH$, IOBUFF$           JM
006410         IF ENDPH$ = "LAST" THEN ENDPH$ = ALL(HEX(FF))            JM
006435         PAGE% = 1                                                JM
006460         RECS% = 1                                                JM
006485         GOSUB HEADER                                             JM
006510         IF STR(IOBUFF$,1,20)>ENDPH$ THEN HOME                    JM
006535         GOTO KNOT                                                JM
006560 AGAN:   READ #1, IOBUFF$,EOD GOTO HOME                           JM
006585         IF STR(IOBUFF$,1,20)>ENDPH$ THEN HOME                    JM
006610         IF RECS% = 1 AND PAGE% <> 1 THEN GOSUB HEADER            JM
006635 KNOT:   IF STR(IOBUFF$,1,20)=" TECHNICAL WORDS" THEN AGAN        JM
006660         PSN= POS("JVCjNOInAPBad"= STR(IOBUFF$,21,1))             JM
006665         IF PSN=0 THEN PSN=14                                     JM
006667         IF PSN=14 THEN A$(14)=STR(IOBUFF$,21,1)                  JM
006685         IF STR(IOBUFF$,22,1)="*" THEN STR(IOBUFF$,22,1)="P"      JM
006710
006735 /* Do we need '+=Root Word' or 'BOLDFACE=Root Word'?    */
006760
006785         IF STR(TP$,1,1)="T" THEN BUG
006810      WRITE #2, USING CAT6,C$," ",STR(IOBUFF$,1,20),            ! RT
006835             A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,27,1)          RT
006860         IF (STR(IOBUFF$,26,1)<>"*") THEN BAG
006885
```

```
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Input File is CRES@TWP in Library CRES@SRC on Volume CRES02

006910 /*  If this is a rootword at printer, make word BOLDFACE  */
006935
006960          C$=HEX(0000)
006985          WRITE #2, USING CAT9, C$, STR(IOBUFF$,1,20)
007010          WRITE #2, USING CAT9, C$, STR(IOBUFF$,1,20)
007035          C$=HEX(0001)
007060          GOTO BAG
007085
007110 /* Turn ROOTWORD's "*" into "+" for TERMINAL output!  */
007135
007160 BUG:     IF STR(IOBUFF$,26,1)="*" THEN STR(IOBUFF$,26,1)="+"
007185      WRITE #2, USING CAT6,C$,STR(IOBUFF$,26,1),STR(IOBUFF$,1,20),! RT
007210            A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,27,1)             RT
007235                                                                    RT
007260 BAG:     RECS%=RECS%+1                                             RT
007285          IF RECS%)LPP% THEN RECS%=1                                RT
007310          IF RECS%=1 THEN PAGE%=PAGE%+1                             RT
007335          GOTO AGAN                                                 RT
007360
007385 HOME:    /*,Need to print 'END OF LISTING' and '(?)=Root Word' */
007410
007435          IF RECS%=1 THEN RECS%=51                                  RT
007460          WRITE #2, USING DOG, C$                                   RT
007485          RECS%=RECS%+2                                             RT
007510          WRITE #2, USING DG, C$                                    RT
007535          FOR I = RECS% TO LPP%+1                                   RT
007560          WRITE #2, USING DOG, C$                                   RT
007585          NEXT I                                                    RT
007610          IF STR(TP$,1,1)="P" THEN HER1
007635          WRITE #2, USING CAT8, C$                                  RT
007660          GOTO HER
007685 HER1:    WRITE #2, USING RAT, C$
007710          C$=HEX(0000)
007735          FOR I=1 TO 4
007760          WRITE #2, USING RAT1, C$
007785          NEXT I
007810          C$ = HEX(0001)
007835 HER:     CLOSE #2                                                  RT
007860          IF STR(TP$,1,1) ="P" THEN MESS                            RT
007885          CLOSE WS                                                  RT
007910          MSG2$ = "CANCEL Processing"                               RT
007935          MSK$=HEX(00)                                              RT
007960          CMSG$ = " "                                               RT
007985        CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,    ! JM
008010      SLIB$,SVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)          JM
008035                                                                    JM
008060          ER$ = " "                                                 RT
008085          IF C%<>0 OR R%<>0                                       ! RT
008110          THEN ER$ = STR(CMSG$,141)                                 RT
008135          GOTO CWMENU                                               RT
008210                                                                    JM
008235 MESS: ER$="       File "&PFILE$&" in Library "& SLIB$ &" on "&  ! JM
008260        SVOL$ &" generated."                                        JM
008285          GOTO BALONEY                                              RT
008310                                                                    RT
008335 NEW: PRINT PAGE, AT(12,28),HEX(84);"Closing last file"             RT
008360      FOR I= 1 TO 50000 :NEXT I                                     RT
```

```
008385      CLOSE #1                                                    RT
008410      GOTO AGAIN                                                  RT
008435                                                                  RT
008460 TTL_PGE:                                                         RT
008485        C$=HEX(8001)                                              RT
008510        WRITE #2, USING DOG, C$                                   RT
008535        C$ = HEX(0015)                                            RT
008560        WRITE #2, USING DOG, C$                                   RT
008585        C$ = HEX(0001)                                            RT
008610        WRITE #2, USING DOG1, C$                                  RT
008635        WRITE #2, USING DOG2, C$                                  RT
008660        WRITE #2, USING DOG0, C$,D$,T$                            RT
008685        WRITE #2, USING DOG3, C$                                  RT
008710        WRITE #2, USING DOG2, C$                                  RT
008735        WRITE #2, USING DOG1, C$                                  RT
008760        WRITE #2, USING DOG2, C$                                  RT
008785        IF SBTITLE$ = "                     " THEN GERRY          RT
008810        WRITE #2, USING DOG4, C$, SBTITLE$                        RT
008835        IF SBTITL1$<>"                     " THEN WRITE #2, USING ! RT
008860 DOG10, C$, SBTITL1$                                              RT
008885        WRITE #2, USING DOG2, C$                                  RT
008910 GERRY: WRITE #2, USING DOG5, C$, FILE$                           RT
008935        WRITE #2, USING DOG2, C$                                  RT
008960        WRITE #2, USING DOG6, C$, LIB$                            RT
008985        WRITE #2, USING DOG2, C$                                  RT
009010        WRITE #2, USING DOG7, C$, IVOL$                           RT
009035        WRITE #2, USING DOG2, C$                                  RT
009060        WRITE #2, USING DOG8, C$, STARTPH$                        RT
009085        WRITE #2, USING DOG2, C$                                  RT
009110        WRITE #2, USING DOG9, C$, ENDPH$                          RT
009135        WRITE #2, USING DOG2, C$                                  RT
009160        WRITE #2, USING DOG1, C$                                  RT
009185        RETURN                                                    RT
009210                                                                  RT
009235 HEADER:                                                          RT
009260        IF PAGE%=1 THEN FIRST                                     RT
009285        C$ = HEX(0001)                                            RT
009310        IF STR(TP$,1,1)="P" THEN FRST1
009335        WRITE #2, USING DOG, C$                                   RT
009360        WRITE #2, USING CAT8, C$                                  RT
009385        GOTO FIRST
009410 FRST1: WRITE #2, USING DOG, C$
009435        WRITE #2, USING RAT, C$
009460        C$=HEX(0000)
009485        FOR I = 1 TO 2                                            RT
009510        WRITE #2, USING RAT1, C$
009535        NEXT I
009560 FIRST: C$ = HEX(8001)                                            RT
009585        WRITE #2, USING DOG, C$                                   RT
009610        C$ = HEX(0001)                                            RT
009635        IF SBTITLE$ = "                    "                    ! RT
009660        THEN WRITE #2, USING CAT,C$,D$,T$,PAGE%                 ! RT
009685        ELSE FOUT                                                 RT
009710        GOTO ALRITE                                               RT
009735 FOUT:  WRITE #2, USING CAT1,C$,SBTITLE$,D$,T$,PAGE%              RT
009760        IF SBTITL1$<>"                     "                    ! RT
009785        THEN WRITE #2, USING CAT7,C$,SBTITL1$                     RT
```

```
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Input File is CRES@TWP in Library CRES@SRC on Volume CRES02

009810 ALRITE: WRITE #2, USING CAT2, C$, FILE$, LIB$, IVOL$                RT
009835         WRITE #2, USING CAT3, C$                                     RT
009860         WRITE #2, USING CAT4, C$                                     RT
009885         WRITE #2, USING CAT5, C$                                     RT
009910         WRITE #2, USING CATY, C$                                     RT
009935         RETURN                                                       RT
009960                                                                      RT
009985 DOG0:%##          !   ########                                    ! RT
010010     #####    !                                                      RT
010035 DOG: %##                                                            RT
010060 DOG1:%##          !-----------------------------------------------! RT
010085 -------------!                                                      RT
010110 DOG2:%##          !                                               ! RT
010135              !                                                      RT
010160 DOG3:%##          !            ******   TECHNICAL WORD LIST    ***! RT
010185 **           !                                                      RT
010210 DOG4:%##          !              TITLE OF LIST:  #################! RT
010235 ####         !                                                      RT
010260 DOG5:%##          !              INPUT FILE:     ########         ! RT
010285              !                                                      RT
010310 DOG6:%##          !              INPUT LIBRARY:  ########         ! RT
010335              !                                                      RT
010360 DOG7:%##          !              INPUT VOLUME:   ######           ! RT
010385              !                                                      RT
010410 DOG8:%##          !              STARTING WORD:  #################! RT
010435 ####         !                                                      RT
010460 DOG9:%##          !              ENDING WORD:    #################! RT
010485 ####         !                                                      RT
010510 DOG10:%##          !                              ################! RT
010535 #####         !                                                     RT
010560 DG:%##   !!! END OF LISTING !!!                                     RT
010585 CAT:%##            ########             #####           PAGE ##### RT
010610 CAT1:%## TITLE OF LIST : ####################      ########       ! RT
010635 #####      PAGE #####                                               RT
010660 CAT7:%##                 ####################                       RT
010685 CAT2:%## Input File is ######## in Library ######## on Volume ###! RT
010710 ###                                                                 RT
010735 CAT3:%##==========================================================! RT
010760 =====================                                               RT
010785 CAT4:%##   WORD                   Part of            Past         ! RT
010810     Mandatory                                                       RT
010835 CATY:%##==========================================================! RT
010860 =====================                                               RT
010885 CAT5:%##  .                       Speech          Participle      ! RT
010910 Technical Word                                                      RT
010935 CAT6:%## # ####################    ##########          #          ! RT
010960        #                                                            RT
010985                                                                     RT
011010 CAT9:%##   ####################
011035 CAT8:%## + = Root Word                                              RT
011060 RAT:%##   BOLDFACE = Root Word
011085 RAT1:%##   BOLDFACE
011110                                                                     RT
011135 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                  RT
011160 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                  RT
011185 DEF FN'7(MSG$,B$,C$,D$)                                             RT
011210       PRINT                                                         RT
```

```
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Input File is CRES@IWP in Library CRES@SRC on Volume CRES02

011235       M$=HEX(94)                                                    RT
011260       G$=B$                                                         RT
011285       L$=C$                                                         RT
011310       V$=D$                                                         RT
011335 RETURN                                                              RT
011360                                                                     RT
011385 EXIT: CLOSE #1                                                      RT
011410 OUT:  /* RETURNING TO TECHNICAL WORD LIST MENU */                   RT
```

Print Technical Words By Attribute (CRES@TPA)

CRES@TPA in library CRES@SRC is the BASIC language program to print the technical word list by attribute. The object language version is CRES@TPA in library CRES@SAV.

This program first allows the user to specify the technical word list to be printed and the attributes, (part of speech, past participle, form of the verb "to be", negative or root word), to be included. See table 1 for a definition of the parts of speech.

If a particular part of speech is selected which also appears in combination with some other part(s) of speech, all combinations which contain the originally specified part of speech will be included. (For example, selecting verb will produce a list of verbs, adverb/verbs, noun/verbs, and adjective/verbs.) More than one attribute can be selected, and all words containing any attribute selected will be included in the printout. If the root word attribute is selected in combination with another attribute, then only root words possessing that attribute will be printed.

The user can select a subtitle of up to two lines to be printed on each page of the output listing. The output listing can be sent to either the terminal or the printer, it can encompass the entire output list generated, or any portion thereof, and the number of lines per page can be specified.

A complete program listing follows. Appendix C contains a sample flowchart.

```
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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

000010 /*  This is the CRES TECHNICAL PRINT BY ATTRIBUTE PROGRAM        */  JM
000030 /*                                                               */
000050 /*                AUTHORS: Rose Tank and John Mears              */
000070 /*                Date:    October 12, 1983                      */
000090 /*                                                               */
000110
000130 /* The following code sets up a screen, which asks for the      */
000150 /* name of the file containing the Technical Word List          */  JM
000170 /* to be printed.  It also provides the opportunity to change   */
000190 /* the library and volume names which are set to the appro-     */
000210 /* priate defaults through the "Extract" system routine.        */
000230
000250
000270 DIM WORD$24,ERR1$60,CODE$1,MSG$50,F$40,G$1,CMSG$255,MSG2$40
000290 DIM F1$20,IOBUFF$64,RVOL$06,PFILE$08,FILE$8,LIB$8,IVOL$6             JM
000310 DIM ENTER$5,PF14$4,PF15$4,PF16$4,ER$79,FIL$19,E2$38                  JM
000330 DIM HEADER$51,L$1,V$1,B$1,C$2,D$8,M$1,MSK$2
000350 DIM SBTITLE$20,A$(20)15,SBTITL1$20,STARTPH$20,ENDPH$20,TP$8
000370 DIM PSPCTIT$15,OTHERS$16,T$(20)1,RLIB$8,SLIB$8,SVOL$6                JM
000390
000410 A$(1)= "adjective"
000430 A$(2)= "verb"
000450 A$(3)= "conjunct."
000470 A$(4)= "adj/verb"
000490 A$(5)= "noun"
000510 A$(6)= "pronoun"
000530 A$(7)= "interject"
000550 A$(8)= "noun/verb"
000570 A$(9)= "adverb"
000590 A$(10)="preposit"
000610 A$(11)="article"
000630 A$(12)="adv/verb"
000650 A$(13)="noun/adj"                                                    RT
000670 A$(14)="past participle"                                             RT
000690 A$(15)="to be"                                                       RT
000710 A$(16)="negative"                                                    RT
000730 A$(17)="mand.tech.word"                                              RT
000750 A$(18)="root word"                                                   RT
000770
000790 F1$=HEX(00140001000100010003A00100010003000B)
000810 ENTER$="ENTER": PF14$ ="PF14":PF15$="PF15":PF16$="PF16"              RT
000812 ATTRIBUTES$="ATTRIBUTES"                                             RT
000830 PSPCTIT$       ="Parts of Speech"
000850 OTHERS$        ="Other Attributes"
000870 F$= "Filename not found on (library/volume)."
000890 E2$= " Please specify a TECHNICAL word list."                        JM
000900 ERR1$  = " I/O ERROR - Please specify a TECHNICAL word list."        JM
000910 HEADER$      ="CRES PRINT TWL BY ATTRIBUTE SUBSYSTEM"                JM
000930 FIL$           ="Technical Word List"
000950 CALL "EXTRACT" ADDR("RV",RVOL$,"RL",RLIB$,"SL",SLIB$,"SV",SVOL$, !  JM
000952      "IL",LIB$,"IV",IVOL$)                                           JM
000970 FILE$=" "
001010 AGAIN:  G$=HEX(81)
001030         MSG$=" ":L$=HEX(81)
001050         V$=HEX(81): M$=HEX(8D)
001070
001090 FILMNU:
```

```
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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

001110 ACCEPT                                                           !
001130        AT (01,01),                                               !
001150 "CRES: Print Technical Word List by Attribute Subsystem",        ! JM
001170        AT (01,57),                                               !
001190 "(File Selection Screen)",                                       !
001210        AT (02,01),                                               !
001230 "================================================================!
001250 ===============",                                                !
001270        AT (04,19),                                               !
001290 "Welcome to the",                                                !
001310        AT (04,30), FAC(HEX(85)),                                 !
001330 HEADER$,                                                         !
001350        AT (07,12),                                               !
001370 "Please specify the",                                            !
001390        AT (07,31), FAC(HEX(84)),                                 !
001410 FIL$,                                                            !
001430        AT (07,51),                                               !
001450 "you want to print.",                                            !
001510        AT (13,30),                                               !
001530 "File     /=",                                                   !
001550        AT (13,43),FAC(G$),FILE$          , CH(08),               !
001570        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  !
001590        AT (14,30),                                               !
001610 "Library   =",                                                   !
001630        AT (14,43),FAC(L$), LIB$          , CH(08),               !
001650        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  !
001670        AT (15,30),                                               !
001690 "Volume    =",                                                   !
001710        AT (15,43),FAC(V$), IVOL$         , CH(06),               !
001730        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  !
001750        AT (18,24), FAC(M$), MSG$,                                !
001770        AT (20,30),"Press",                                       ! RT
001790        AT (20,36),FAC(HEX(84)),                                  ! RT
001810 ENTER$,                        ,                                 ! RT
001830        AT(20,42),                                                ! RT
001850 "to continue",                                                   !
001870       AT (21,15),"Press",                                        ! RT
001890        AT (21,21), FAC(HEX(84)),                                 ! RT
001910 PF16$,                                                           !
001930        AT (21,26),                                               ! RT
001950 "to return to the Technical Word List Menu",                     ! RT
001970 ON (BIN(16)&BIN(32)) GOTO OUT
002010
002030 M$=HEX(8D):MSG$=" "                                                RT
002050 /* SET UP THE USER FILE BLOCK */
002070
002090 SELECT #1,"TECHNIC",VARC,INDEXED,RECSIZE=40,KEYPOS=1,KEYLEN=20,  !
002110           IOERR GOTO IOERR1
002130
002150 SELECT #2,"PRTFILE",PRINTER,RECSIZE=80,IOERR GOTO IOERR1
002170
002190 /* SEE IF THE SPECIFIED FILE EXISTS */
002210
002230 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,MSG$)
002250 IF CODE$="Y" THEN ZZZ
002270 IF CODE$="N" THEN GOSUB'7(F$,HEX(91),HEX(81),HEX(81))
002290 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))
```

```
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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

002310 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))
002330 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))
002350 GOTO FILMNU
002370
002390 /* OUR FILE EXISTS, BUT IS IT A TECHNICAL WORD LIST? */            JM
002414                                                                    JM
002416 ZZZ: CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,0%,"RS",RAG%,RET%)       JM
002418      IF RAG%=40 THEN ZZ1                                           JM
002420      GOSUB'7(E2$,HEX(81),HEX(81),HEX(81))                          JM
002422      GOTO FILMNU                                                   JM
002430 ZZ1: OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,      ! JM
002450      VOLUME = IVOL$
002490      READ #1,IOBUFF$, DATA GOTO IOERR2
002510      IF STR(IOBUFF$,,16)= " TECHNICAL WORDS" THEN YES
002530      CLOSE #1
002550      M$=HEX(94)
002570      MSG$= E2$                                                     JM
002590      GOTO FILMNU
002610 YES:
002630 X$="X": R0FL=0: FOR I=1 TO 18: T$(I)=" ":NEXT I                    RT
002650
002670 ACCEPT                                                           ! RT
002690        AT (01,03),                                               ! RT
002710 "CRES: Print TWL by Attribute Subsystem           (Attribute Sele! JM
002730 ction Screen)",                                                  ! RT
002750        AT (02,03),                                               ! RT
002770 "================================================================! RT
002790 =============",                                                  ! RT
002810        AT (04,03),                                               ! RT
002830 "  Place an",                                                    ! RT
002850        AT (04,14),FAC(HEX(85)),X$, CH(01),                       ! RT
002870        AT (04,16),                                               ! RT
002890 "beside the attribute or combination of attributes to be printed.! RT
002910 ",                                                               ! RT
002930        AT (05,03),                                               ! RT
002950 "If you choose a part of speech which is included in a combinatio! RT
002970 n, then the",                                                    ! RT
002990        AT (06,03),                                               ! RT
003010 "combination will also be printed. (e.g. If adverb is selected, t! RT
003030 hen adv/verbs",                                                  ! RT
003050        AT (07,03),                                               ! RT
003070 "will be printed as well as the adverbs.)  If the root word optio! RT
003090 n is selected ",                                                 ! RT
003110        AT (08,03),                                               ! RT
003130 "in combination with another attribute, then only root words with! RT
003150  that ",                                                         ! RT
003170        AT (09,03),                                               ! RT
003190 "attribute will be printed.",                                    ! RT
003210        AT (11,37), FAC(HEX(AD)),         ATTRIBUTES$   , CH(10), ! RT
003230        AT (13,14), FAC(HEX(AC)),         PSPCTIT$      , CH(15), ! RT
003250        AT (13,55), FAC(HEX(AC)),         OTHERS$       , CH(16), ! RT
003270        AT (14,05),                                               ! RT
003290 "adjective",                                                     ! RT
003310        AT (14,18), FAC(HEX(81)),         T$(1)         , CH(01), ! RT
003330        AT (14,24),                                               ! RT
003350 "noun/verb",                                                     ! RT
003370        AT (14,36), FAC(HEX(81)),         T$(8)         , CH(01), ! RT
```

```
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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

003390          AT (14,55),                                                  : RT
003410 "past participle",                                                   : RT
003430          AT (14,71), FAC(HEX(81)),        T$(14)        , CH(01),     : RT
003450          AT (15,05),                                                  : RT
003470 "verb",                                                              : RT
003490          AT (15,18), FAC(HEX(81)),        T$(2)         , CH(01),     : RT
003510          AT (15,24),                                                  : RT
003530 "adverb",                                                            : RT
003550          AT (15,36), FAC(HEX(81)),        T$(9)         , CH(01),     : RT
003570          AT (15,55),                                                  : RT
003590 "to be",                                                             : RT
003610          AT (15,71), FAC(HEX(81)),        T$(15)        , CH(01),     : RT
003630          AT (16,05),                                                  : RT
003650 "conjunction",                                                       : RT
003670          AT (16,18), FAC(HEX(81)),        T$(3)         , CH(01),     : RT
003690          AT (16,24),                                                  : RT
003710 "preposition",                                                       : RT
003730          AT (16,36), FAC(HEX(81)),        T$(10)        , CH(01),     : RT
003750          AT (16,55),                                                  : RT
003770 "negative",                                                          : RT
003790          AT (16,71), FAC(HEX(81)),        T$(16)        , CH(01),     : RT
003810          AT (17,05),                                                  : RT
003830 "adj/verb",                                                          : RT
003850          AT (17,18), FAC(HEX(81)),        T$(4)         , CH(01),     : RT
003870          AT (17,24),                                                  : RT
003890 "article",                                                           : RT
003910          AT (17,36), FAC(HEX(81)),        T$(11)        , CH(01),     : RT
003930          AT (17,55),                                                  : RT
003950 "mand tech words",                                                     JM
003970          AT (17,71), FAC(HEX(81)),        T$(17)        , CH(01),     : RT
003990          AT (18,05),                                                  : RT
004010 "noun",                                                              : RT
004030          AT (18,18), FAC(HEX(81)),        T$(5)         , CH(01),     : RT
004050          AT (18,24),                                                  : RT
004070 "adv/verb",                                                          : RT
004090          AT (18,36), FAC(HEX(81)),        T$(12)        , CH(01),     : RT
004110          AT (18,55),                                                  : RT
004130 "root word",                                                         : RT
004150          AT (18,71), FAC(HEX(81)),        T$(18)        , CH(01),     : RT
004170          AT (19,05),                                                  : RT
004190 "pronoun",                                                           : RT
004210          AT (19,18), FAC(HEX(81)),        T$(6)         , CH(01),     : RT
004230          AT (19,24),                                                  : RT
004250 "noun/adj",                                                          : RT
004270          AT (19,36), FAC(HEX(81)),        T$(13)        , CH(01),     : RT
004290          AT (20,05),                                                  : RT
004310 "interjection",                                                      : RT
004330          AT (20,18), FAC(HEX(81)),        T$(7)         , CH(01),     : RT
004350          AT (21,24), FAC(M$),             MSG$          , CH(45),     : RT
004370          AT (22,30),                                                  : JM
004390 "Press",                                                             : RT
004410          AT (22,36), FAC(HEX(85)),        ENTER$        , CH(05),     : JM
004430          AT (22,42),                                                  : JM
004450 "to continue",                                                       : RT
004470          AT (23,17),                                                  : JM
004490 "Press",                                                             : RT
004510          AT (23,23), FAC(HEX(84)),        PF15$         , CH(04),     : JM
```

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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

004530         AT (23,28),                                                  ! JM
004550 "to select another Technical Word List",                             ! RT
004552         AT (24,15),                                                  ! JM
004554 "Press",                                                             ! JM
004556         AT (24,21), FAC(HEX(84)),         PF16$         , CH(04),    ! JM
004558         AT (24,26),                                                  ! JM
004560 "to return to the Technical Word List Menu",                         ! JM
004570 KEYS(BIN(0)&BIN(15)&BIN(31)&BIN(16)&BIN(32)),                        ! JM
004590 ON (BIN(15)&BIN(31)&BIN(16)&BIN(32)) GOTO NEW,NEW,EXIT,EXIT            JM
004610
004630 MSG$=" ":M$=HEX(8D): K=0
004650 FOR I = 1 TO 17                                                        RT
004670  PSN=POS(" X"=T$(I))
004690  IF PSN=0 THEN INPTER
004710  IF PSN=2 THEN K=1
004730 NEXT I
004750 IF K=1 THEN 4852                                                       RT
004770 IF K=0 AND T$(18)="X" THEN RTFL=2 ELSE INPTER                          RT
004790 GOTO 4852                                                              RT
004810 INPTER: MSG$="Please use only 'X' to mark attributes."
004830 M$=HEX(94): GOTO YES
004850
004852 IF T$(1)<>"X" THEN 4856          /*If adj was marked then          */ RT
004854       T$(4)="X": T$(13)="X"      /*also print adj/verb & noun/adj*/ RT
004856 IF T$(2)<>"X" THEN 4862          /*If verb was marked then also   */ RT
004858       T$(4)="X": T$(8)="X": T$(12)="X"/*print adj/verb, noun/verb*/ RT
004860                                  /* & adv/verb                    */ RT
004862 IF T$(5)<>"X" THEN 4866          /*If noun was marked then also   */ RT
004864       T$(8)="X": T$(13)="X"      /*print noun/verb & noun/adj     */ RT
004866 IF T$(9)="X" THEN T$(12)="X"     /*If adv was marked then also    */ RT
004868                                  /*print adv/verb                 */ RT
004870                                                                        RT
004890 FOR I =14 TO 17: IF T$(I)="X" THEN T$(I)="*" ELSE T$(I)="$":NEXT I RT
004910 IF K=1 AND T$(18)="X" THEN RTFL=1                                      RT
004930 /* This section of code generates the third screen, which asks  */ JM
004950 /* for the particular word interval and its corresponding        */ JM
004970 /* print  operation.  The user is given the option of returning */ JM
004990 /* to the previous screen to select different attributes, or of */ JM
004992 /* returning to the first screen to select a different word file*/ JM
005010 /* or of returning to the Technical Word List Menu.              */ JM
005030
005050
005070 ER$ =" "
005090 CWMENU:
005110 WORD$ = " "
005130 LPP%           =50
005150 PF15$          ="PF15"
005170 PF16$          ="PF16"
005190 SBTITLE$       =" "
005210 SBTITL1$       =" "
005230 BALONEY:
005250        TP$            ="TERMINAL"
005270        STARTPH$       ="FIRST"
005290        ENDPH$         ="LAST"
005310 PRINTSCR:
005330 ACCEPT                                                               !
005350         AT (01,03),                                                  !
```

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```
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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

005370 "CRES: Print Technical Word List by Attribute Subsystem",        ! JM
005390        AT (01,66),                                               !
005410 "(Print Screen)",                                                !
005430        AT (02,03),                                               !
005450 "================================================================!
005470 =============",                                                  !
005490        AT (04,13),                                               !
005510 "To print a range of lines, fill in the information below.",     !
005530        AT (06,02), FAC(HEX(85)),                                 !
005550  ER$,                                                            !
005570        AT (08,22),                                               !
005590 "Subtitle of list =",                                            !
005610        AT (08,42), FAC(HEX(81)),SBTITLE$,CH(20),                 !
005630        AT (09,42), FAC(HEX(81)),SBTITL1$,CH(20),                 !
005650        AT (12,22),                                               !
005670 "Starting word    =",                                            !
005690        AT (12,42),FAC(HEX(81)), STARTPH$, CH(20),                !
005710        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 !
005730        AT (13,22),                                               !
005750 "Ending word      =",                                            !
005770        AT (13,42), FAC(HEX(81)), ENDPH$, CH(20),                 !
005790        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 !
005810        AT (14,22),                                               !
005830 "Lines per page   =",                                            !
005850        AT (14,42), FAC(HEX(82)), LPP%, PIC(##),                  !
005870        AT (17,22),                                               !
005890 "Print at (TERMINAL/PRINTER) =",                                 !
005910        AT (17,53), FAC(HEX(81)), TP$, CH(08),                    !
005930        AT (21,32),                                               ! RT
005950 "Press",                                                         !
005970        AT (21,38), FAC(HEX(85)),  ENTER$, CH(05),                ! RT
005990        AT (21,44),                                               ! RT
006010 "to print",                                                      !
006030        AT (22,24),                                               ! RT
006050 "Press",                                                         !
006070        AT (22,30),FAC(HEX(85)),PF14$,CH(04),                     ! RT
006090        AT (22,35), "to select new attributes",                   ! RT
006110        AT (23,19),                                               ! RT
006130 "Press",                                                         !
006150        AT (23,25), FAC(HEX(84)), PF15$, CH(04),                  ! RT
006170        AT (23,30),                                               ! RT
006190 "to select another Technical Word List",                         ! RT
006210        AT (24,17),                                               ! RT
006230 "Press",                                                         !
006250        AT (24,23), FAC(HEX(84)), PF16$, CH(04),                  ! RT
006270        AT (24,28),                                               ! RT
006290 "to return to the Technical Word List Menu",                     ! RT
006310 KEYS(BIN(0)&BIN(15)&BIN(16)&BIN(31)&BIN(32)&BIN(14)&BIN(30)),    !
006330 ON (BIN(15)&BIN(31)&BIN(16)&BIN(32)&BIN(14)&BIN(30)) GOTO NEW,NEW!
006350      ,EXIT,EXIT,YES,YES
006370              IF STR(TP$,1,1) = "P" THEN NEXT11
006390              IF STR(TP$,1,1) <> "T" THEN TERMPR
006410 NEXT11:      IF LPP% < 51 THEN NEXT13
006430              ER$="'Lines per page' can be at most 50."
006450              GOTO PRINTSCR
006470
006490 IOERR1:  PRINT
```

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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

006510          PRINT BELL,HEX(94),ERR1$
006530          CLOSE #1
006550          FOR I=1 TO 200000 :NEXT I
006570          GOTO FILMNU
006590
006610 TERMPR:
006630 ER$="'Print at ' has only legal values TERMINAL or PRINTER."
006650      GOTO PRINTSCR
006670
006690 REX: ER$="            'Starting word' comes after 'Ending word'."
006710      GOTO PRINTSCR
006750
006770 IOERR2:  PRINT
006790          PRINT HEX(94),"Error occurred on file "; FILE$
006810          PRINT HEX(94),"Error code = "; FS(#1)
006830          STOP "Touch ENTER to return to menu."
006850          GOTO CWMENU
006870
006890 NEXT13: IF STARTPH$="FIRST" OR ENDPH$="LAST" THEN FORD
006910         IF STARTPH$>ENDPH$ THEN REX
006930
006950 /* Now it's time to generate our print file name */
006970
006990 FORD:   DAT$= DATE
007010         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)
007030         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)
007050
007070         PFILE$="TATRIB##"
007090         I%=0
007110 NEXT14: CONVERT I% TO STR(PFILE$,7,2),PIC(00)
007130         I%=I%+1
007150         CALL "LIMITS" (PFILE$,SLIB$,SVOL$,CODE$,MSG$)               JM
007170         IF CODE$="Y" THEN NEXT14
007190 DISPLAY                                                           !
007210        AT (01,03),                                                !
007230 "CRES: Print by Attribute Subsystem",                             !
007250        AT (01,61),                                                !
007270 "(Generation Screen)",                                            !
007290        AT (02,03),                                                !
007310 "=================================================================!
007330 =============",                                                   !
007350         AT (12,23),                                               !
007370 "Output file now being generated!"
007390         OPEN NOGETPARM #2,OUTPUT,FILE=PFILE$,LIBRARY=SLIB$,       ! JM
007410             VOLUME=SVOL$,SPACE=15000                                JM
007430         GOSUB TTL_PGE
007450         IF STARTPH$ = "FIRST" THEN STARTPH$ = ALL(HEX(00))
007470         IF ENDPH$ = "LAST" THEN ENDPH$ = ALL(HEX(FF))
007490         PAGE% = 1
007510         RECS% = 1
007530         READ #1, KEY>=STARTPH$,IOBUFF$
007550         IF STR(IOBUFF$,1,20)>ENDPH$ THEN HOME
007570         IF STR(IOBUFF$,1,16)=" TECHNICAL WORDS"  THEN AGAN
007590 KNOT:   IF RTFL<>1 THEN 7630                                        RT
007610         IF STR(IOBUFF$,26,1)<>"*" THEN AGAN
007630         PSN= POS("JVCjNOInAPBa"= STR(IOBUFF$,21,1))
007650         IF T$(PSN)="X" THEN 7790                                    RT
```

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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

007670          IF T$(14)=STR(IOBUFF$,22,1) THEN 7790                      RT
007690          IF T$(15)=STR(IOBUFF$,24,1) THEN 7790                      RT
007710          IF T$(16)=STR(IOBUFF$,23,1) THEN 7790                      RT
007730          IF T$(17)=STR(IOBUFF$,27,1) THEN 7790                      RT
007750          IF RTFL=2 AND STR(IOBUFF$,26,1)="*" THEN 7790              RT
007770          GOTO AGAN
007790          IF RECS% = 1 THEN GOSUB HEADER
007810          IF STR(TP$,1,1)="T" THEN BUG
007830       WRITE #2, USING IMG6,C$, " ",STR(IOBUFF$,1,20),            :
007850             A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,24,1),         :
007870             STR(IOBUFF$,23,1),STR(IOBUFF$,27,1)                     RT
007890          IF(STR(IOBUFF$,26,1)<>"*")THEN BAG
007910          IF RTFL<>0 THEN BAG
007930          C$=HEX(0000)
007950          WRITE #2, USING IMG9, C$,STR(IOBUFF$,1,20)
007970          WRITE #2, USING IMG9, C$,STR(IOBUFF$,1,20)
007990          C$=HEX(0001)
008010          GOTO BAG
008030 BUG: IF STR(IOBUFF$,26,1)="*" THEN STR(IOBUFF$,26,1)="+"
008050       WRITE #2, USING IMG6,C$,STR(IOBUFF$,26,1),STR(IOBUFF$,1,20),:
008070             A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,24,1),         :
008090             STR(IOBUFF$,23,1),STR(IOBUFF$,27,1)                     RT
008110 BAG:     RECS%=RECS%+1
008130          IF RECS%>LPP% THEN RECS%=1
008150          IF RECS%=1 THEN PAGE%=PAGE%+1
008170 AGAN:    READ #1, IOBUFF$,EOD GOTO HOME
008190          IF STR(IOBUFF$,1,20)>ENDPH$ THEN HOME
008210          GOTO KNOT
008230 HOME:    IF RECS%=1 THEN RECS%=51
008250          WRITE #2, USING TIT, C$
008270          RECS%=RECS%+2
008290          WRITE #2, USING DG, C$
008310          FOR I = RECS% TO LPP%+1
008330          WRITE #2, USING TIT, C$,
008350          NEXT I
008370          IF STR(TP$,1,1)="P" THEN HER1
008390          WRITE #2, USING IMG8, C$
008410          GOTO HER
008430 HER1:    IF RTFL<>0 THEN HER: WRITE #2, USING RT, HEX(0002)
008450          C$=HEX(0000)
008470          FOR I=1 TO 2
008490          WRITE #2, USING RT1, C$
008510          NEXT I
008530          C$=HEX(0001)
008550 HER:     CLOSE #2
008570          IF STR(TP$,1,1) ="P" THEN MESS
008590          CLOSE WS
008610          MSG2$ = "CANCEL Processing"
008630          MSK$=HEX(00)
008650          CMSG$ = " "
008670         CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,    : JM
008690           SLIB$,SVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)      JM
008710          ER$ = " "
008730          IF C%<>0 OR R%<>0                                       :
008750          THEN ER$ = STR(CMSG$,141)
008770          GOTO CWMENU
008790
```

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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

008810 MESS: ER$="          File "&PFILE$&" in Library "& SLIB$ &" on "&  ! JM
008830   SVOL$ &" generated."                                              JM
008850         GOTO BALONEY
008870
008890 NEW: PRINT PAGE, AT(12,28),HEX(84);"Closing last file"
008910      FOR I= 1 TO 50000 :NEXT I
008930      FILE$=" "
008950      CLOSE #1
008970      GOTO AGAIN
008990
009010 TTL_PGE:
009030         C$=HEX(8001)
009050         WRITE #2, USING TIT, C$
009070         C$ = HEX(0012)
009090         WRITE #2, USING TIT, C$
009110         C$ = HEX(0001)
009130         WRITE #2, USING TIT1, C$
009150         WRITE #2, USING TIT2, C$
009170         WRITE #2, USING TIT0, C$,D$,T$
009190         WRITE #2, USING TIT3, C$
009210         WRITE #2, USING TIT2, C$
009230         WRITE #2, USING TIT1, C$
009250         WRITE #2, USING TIT2, C$
009270         IF SBTITLE$ = "                    " THEN GERRY
009290         WRITE #2, USING TIT4, C$, SBTITLE$
009310         IF SBTITL1$<>"                    " THEN WRITE #2, USING  !
009330 TIT10, C$, SBTITL1$
009350         WRITE #2, USING TIT2, C$
009370 GERRY: WRITE #2, USING TIT5, C$, FILE$
009390         WRITE #2, USING TIT2, C$
009410         WRITE #2, USING TIT6, C$, LIB$
009430         WRITE #2, USING TIT2, C$
009450         WRITE #2, USING TIT7, C$, IVOL$
009470         WRITE #2, USING TIT2, C$,
009490         WRITE #2, USING TIT8, C$, STARTPH$
009510         WRITE #2, USING TIT2, C$
009530         WRITE #2, USING TIT9, C$, ENDPH$
009550         FOR I= 1 TO 17
009570          IF T$(I)="X" OR T$(I)="*"  THEN FIRSTAT
009590         NEXT I
009610 FIRSTAT: WRITE #2,USING TIT2,C$: WRITE #2,USING TIT11,C$,A$(I)
009630         FOR K= I+1 TO 17
009650      IF T$(K)="X" OR T$(K)="*" THEN WRITE #2, USING TIT12, C$,A$(K)
009670         NEXT K
009690         WRITE #2, USING TIT2, C$
009710         WRITE #2, USING TIT1, C$
009730         RETURN
009750
009770 HEADER:
009790         IF PAGE%=1 THEN FIRST
009810         C$ = HEX(0001)
009830         IF STR(TP$,1,1)="P" THEN FRST1
009850         WRITE #2, USING TIT, C$
009870         WRITE #2, USING IMG8, C$
009890         GOTO FIRST
009910 FRST1: IF RTPL<>0 THEN FIRST
009930         WRITE #2, USING RT, HEX(0002)
```

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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

009950        C$=HEX(0000)
009970        FOR I=1 TO 2
009990        WRITE #2, USING RT1, C$
010010        NEXT I
010030 FIRST: C$ = HEX(8001)
010050        WRITE #2, USING TIT, C$
010070        C$ = HEX(0001)
010090        IF SBTITLE$ = "                  "                       !
010110        THEN WRITE #2, USING IMG,C$,D$,T$,PAGE%                  !
010130        ELSE GOTO FOUT
010150        GOTO ALRITE
010170 FOUT:  WRITE #2, USING IMG1,C$,SBTITLE$,D$,T$,PAGE%
010190        IF SBTITL1$<>"                 "                         !
010210        THEN WRITE #2, USING IMG7,C$,SBTITL1$
010230 ALRITE: WRITE #2, USING IMG2, C$, FILE$, LIB$, IVOL$
010250        WRITE #2, USING IMG3, C$
010270        WRITE #2, USING IMG4, C$
010290        WRITE #2, USING IMG5, C$
010310        WRITE #2, USING IMG3, C$
010330        RETURN
010350
010370 TIT0:%##        !   ########                                    !
010390     #####   !
010410 TIT: %##
010430 DG:%##   !!! END OF LISTING !!!
010450 TIT1:%##        !-----------------------------------------------!
010470 ------------!
010490 TIT2:%##        !                                               !
010510             !
010530 TIT3:%##        !               ****** TECHNICAL WORD LIST ****! RT
010550 *           !
010570 TIT4:%##        !              TITLE OF LIST:  ################!
010590 ####        !
010610 TIT5:%##        !            , INPUT FILE:     ########        !
010630             !
010650 TIT6:%##        !              INPUT LIBRARY:  ########        !
010670             !
010690 TIT7:%##        !              INPUT VOLUME:   ######          !
010710             !
010730 TIT8:%##        !              STARTING WORD:  ################!
010750 ####        !
010770 TIT9:%##        !              ENDING WORD:    ################!
010790 ####        !
010810 TIT10:%##        !                              ###############!
010830 #####        !
010850 TIT11:%##        !             ATTRIBUTES SPECIFIED:  #########!
010870 ######       !
010890 TIT12:%##        !                                    #########!
010910 ######       !
010930 IMG:%## ########                       #####                    !
010950          PAGE #####
010970 IMG1:%## TITLE OF LIST : ####################     ########      !
010990 #####      PAGE #####
011010 IMG7:%##                 ####################
011030 IMG2:%## Input File is ######## in Library ######## on Volume ###!
011050 ###
011070 IMG3:%##===========================================================!
```

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Input File is CRES@TPA in Library CRES@SRC on Volume CRES02

011090 =====================
011095 IMG4:%##   WORD                  Part of        Past      To Be  N! RT
011100 egative   Mand. Tech.                                               RT
011105 IMG5:%##                          Speech     Participle           ! RT
011110              Word                                                   RT
011115 IMG6:%## # #################### ##########        #          #    ! RT
011120   #             #                                                   RT
011210 IMG9:%##   ####################
011230 IMG8:%## + = ROOT WORD
011250 RT:%##   BOLDFACE = Root Word
011270 RT1:%##   BOLDFACE
011290
011310 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */
011330 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */
011350 DEF FN'7(MSG$,B$,C$,D$)
011370      PRINT
011390      M$=HEX(94)
011410      G$=B$
011430      L$=C$
011450      V$=D$
011470 RETURN
011490
011510 EXIT: CLOSE #1
011530 OUT:  /* RETURNING TO TECHNICAL WORD LIST MENU */                  JM
```

WORD AND PHRASE SUBSTITUTE LIST SUBSYSTEM

Create/Maintain Word and Phrase Substitute List Menu (CRES@WSL)

CRES@WSL in library CRES@PRC is the Procedure Language menu routine that serves as the driver for the Create/Maintain Word and Phrase Substitute Lists Subsystem. It enables the user to select by PF key among options to create/maintain the Word Substitute List or the Phrase Substitute List, to print the Word Substitute List, the Phrase Substitute List, or a combined Word and Phrase Substitute List, or to return to the CRES Master Menu.

A complete listing follows.

```
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Input File is CRES@WSL in Library CRES@PRC on Volume CRES01

*
          PROCEDURE    CRES SUBSTITUTION LIST MENU
*         AUTHOR       ROSE TANK
*         DATE         10/06/83
*
*         Abstract: This procedure is a subsystem of CRES Master Menu
*                   (option 3 - Create/Maintain Substitution Lists).
*
*                   It allows the user to select and run any
*                   substitution list file option.
*
          DECLARE          &USERINPT AS INTEGER      INITIAL  0
          DECLARE        &OPTIONERR  AS STRING (79) INITIAL "         "
          DECLARE        &OPTIONERR2 AS STRING (79) INITIAL "         "
          DECLARE         &USERNAME  AS STRING (24) INITIAL "         "
          DECLARE           &ERRMSG  AS STRING (34) INITIAL "         "
          DECLARE           &RUNLIB  AS STRING  (8) INITIAL "         "    JM
          DECLARE           &RUNVOL  AS STRING  (6) INITIAL "      "       JM
*
          EXTRACT &USERNAME=USERNAME, &RUNLIB=OUTLIB, &RUNVOL=RUNVOL      JM
*
GETUSERINPT:    PROMPT  PFKEY = &USERINPT      CENTER
      DIM "CRES: Substitution Subsystem                           (Substi RT
tution Menu Screen)";                                                     RT
      DIM "=============================================================
===================";
      DIM " ";" ";
      DIM "  Use the appropriate",BRIGHT " PF key"," to select the desi
red operation.";
      DIM " ";" ";
      DIM "                  ",LINE "PF",DIM "  ",
      LINE "                Operation              ";
      DIM " ";
      DIM "                    ",BRIGHT "1"," - Create/Maintain Word Substi
tution List";
      DIM "                    ",BRIGHT "2"," - Create/Maintain Phrase Subs
titution List";
      DIM "                    ",Bright "3"," - Print Word Substitution Lis
t";
      DIM "                    ",Bright "4"," - Print Phrase Substitution L
ist";
      DIM "                    ",Bright "5"," - Print Combination of Word a
nd Phrase Substitutes";
      DIM " ";
      DIM "                   ",Bright "16"," - Return to CRES Master Menu"
;     DIM " ";" ";" ";" ";" ";
      BRIGHT &OPTIONERR;
      BLINK  &OPTIONERR2;
*
          ASSIGN     &ERRMSG = " "
          ASSIGN     &OPTIONERR = " "
          ASSIGN     &OPTIONERR2 = " "
*
          IF     &USERINPT EQ 16                   GOTO USEREXIT
          IF     &USERINPT EQ 32                   GOTO USEREXIT
          IF     &USERINPT EQ 1                    GOTO RUNWSL
          IF     &USERINPT EQ 17                   GOTO RUNWSL
```

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Input File is CRES@WSL in Library CRES@PRC on Volume CRES01

         IF     &USERINPT EQ 2                    GOTO RUNPSL
         IF     &USERINPT EQ 18                   GOTO RUNPSL
         IF     &USERINPT EQ 3                    GOTO RUNPWS              RT
         IF     &USERINPT EQ 19                   GOTO RUNPWS              RT
         IF     &USERINPT EQ 4                    GOTO RUNPPS
         IF     &USERINPT EQ 20                   GOTO RUNPPS
         IF     &USERINPT EQ 5                    GOTO RUNCWP
         IF     &USERINPT EQ 21                   GOTO RUNCWP

               ASSIGN &OPTIONERR = "I'm sorry, but your selected option
 is not currently available."
               ASSIGN &OPTIONERR2 = "Please select another topic."
               GOTO GETUSERINPT
*
RUNWSL:     RUN CRES@WSL IN &RUNLIB ON &RUNVOL
            IF   RUNWSL    EQ 0     GOTO GETUSERINPT
            GOTO USEREXIT
*
RUNPWS:     RUN CRES@WSP IN &RUNLIB ON &RUNVOL                             RT
            IF   RUNPWS EQ 0        GOTO GETUSERINPT                       RT
            GOTO USEREXIT
*
RUNPSL:     RUN CRES@PSL IN &RUNLIB ON &RUNVOL
            IF   RUNPSL    EQ 0     GOTO GETUSERINPT
            GOTO USEREXIT
*
RUNPPS:     RUN CRES@PSP IN &RUNLIB ON &RUNVOL
            IF   RUNPPS EQ 0        GOTO GETUSERINPT
            GOTO USEREXIT
*
RUNCWP:     RUN CRES@SBP IN &RUNLIB ON &RUNVOL
            IF   RUNCWP EQ 0        GOTO GETUSERINPT
            GOTO USEREXIT
*
USEREXIT:       RETURN
```

Create/Maintain Word Substitute List (CRES@WSL)

CRES@WSL in library CRES@SRC is the BASIC language program to create/maintain the Word Substitute List. The object language version is CRES@WSL in library CRES@SAV.

This program first allows the user to specify the Word Substitute List to be created or maintained. Then, the program enables the user to add, delete, or modify any given word and its substitute(s) and attributes. Up to two substitutes can be specified. The first substitute can contain up to 20 characters; the second substitute can contain up to 15 characters.

The only characters accepted in the input word and its substitute(s) are the letters A through Z, ".", "-", and "'". There can be no embedded blanks. The data record for each word also contains information about the word's attributes: the part of speech (see table 1), the past participle flag, and the negative flag. A complete data record description is provided in appendix A.

There is a protection system implemented for this list, and the program makes provision for clearing the protect bytes, if for some reason the bytes have been left set incorrectly.

A complete program listing follows. Appendix C contains a sample flowchart.

```
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Input File is CRES@WSL in Library CRES@SRC on Volume CRES02

000010 /*  This is the CRES WORD SUBSTITUTION MAINTENANCE SUBSYSTEM   */  RT
000110 /*                                                             */  RT
000210 /*               AUTHOR:  Rose Tank                            */  JM
000310 /*               Date:    October 12, 1983                     */  RT
000410 /*                                                             */  RT
000510                                                                    RT
000610 /* The following code sets up a screen, which asks for the      */  RT
000710 /* name of the file containing the Word Sub. list that is      */  RT
000810 /* to be modified.  It also provides the opportunity to change */  RT
000910 /* the library and volume names which are set to the appro-    */  RT
001010 /* priate defaults through the "Extract" system routine.       */  RT
001110                                                                    RT
001210                                                                    RT
001310 DIM WORD$20,ERR1$50,CODE$1,MSG$50,F$40,G$1,PROTECT$3               RT
001410 DIM F1$20,IOBUFF$61,ER1$50,XYZ$1,MESSG$21,P$(13)3,FIL$22          RT
001510 DIM PFK$4,TAB$3,BTAB$7,FILE$8,USER$3,PF1$3,USERNAME$24,WRKST$3    RT
001610 DIM LIB$            08,PASSWRD$13,X$1                              JM
001710 DIM IVOL$           06,HEADER$50,L$1,V$1,B$1,C$1,D$1,M$1          RT
001810 DIM MOD$            15,SUBONE$20,SUBTWO$15,PPFL$1,PRTOSPC$1       RT
001910 DIM DEF$            07,NEGFL$1                                     RT
002010 DIM LEG$            05,A5$10,A7$7                                  RT
002110 DIM NOEXIST$68, E$1                                                RT
002210 DIM ER$             68                                             RT
002310 DIM ZAP$25                                                         RT
002410 HEADER$        ="CRES WORD SUBSTITUTION MAINTENANCE SUBSYSTEM"     RT
002510 FIL$           ="Word Substitution List"                           RT
002610 MESSG$="Parts of speech codes"                                     RT
002710 TAB$="TAB": BTAB$="BACKTAB"                                        RT
002810 P$(1)="(J)":P$(2)="(j)":P$(3)="(A)":P$(4)="(a)":P$(5)="(B)"        RT
002910 P$(6)="(C)":P$(7)="(I)":P$(8)="(N)":P$(9)="(n)":P$(10)="(P)"       RT
003010 P$(11)="(O)":P$(12)="(V)":P$(13)="(d)"                             RT
003110 ITLE5$        ="PART_OF_SPEECH"                                    JM
003210 ITLE6$        ="DEFINITION"                                        JM
003310 ENTER$         ="ENTER"                                            RT
003410 PF1$="PF1": PF16$="PF16"                                           RT
003510                                                                    RT
003610 F1$=HEX(A014A014A00FA001A001A001A0030013)                          RT
003710 F$= "Filename not found on (library/volume)."                      RT
003810 ERR1$= "I/O ERROR - Please check filename and respecify."          RT
003910                                                                    RT
004010 CALL "EXTRACT" ADDR("ID",USER$,"IL",LIB$,"IV",IVOL$)               JM
004110 DF=0                                                               RT
004210 FILE$="WRDSBLST"                                                   JM
004310 AGAIN:  G$=HEX(81)                                                 RT
004410         MSG$=" ":L$=HEX(81)                                        RT
004510         V$=HEX(81): M$=HEX(8D)                                     RT
004610                                                                    RT
004710 FILMNU:                                                            RT
004810 ACCEPT                                                           ! RT
004910         AT (01,01),                                              ! RT
005010 "CRES: Word Substitution List Maintenance Subsystem",            ! RT
005110         AT (01,57),                                              ! RT
005210 "(File Selection Screen)",                                       ! RT
005310         AT (02,01),                                              ! RT
005410 "===============================================================! RT
005510 ===============",                                                ! RT
005610         AT (04,12),                                              ! RT
```

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Input File is CRES@WSL in Library CRES@SRC on Volume CRES02

005710 "Welcome to the",                                                ! RT
005810        AT (04,27), FAC(HEX(85)),                                 ! RT
005910 HEADER$,                                                         ! RT
006010        AT (07,06),                                               ! RT
006110 "Please specify the",                                            ! RT
006210        AT (07,25), FAC(HEX(84)),                                 ! RT
006310 FIL$,                                                            ! RT
006410        AT (07,48),                                               ! RT
006510 "you want to modify or create.", .                               ! RT
006610        AT (13,30),                                               ! RT
006710 "File     =",                                                    ! RT
006810        AT (13,43),FAC(G$),FILE$         , CH(08),                ! RT
006910        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT
007010        AT (14,30),                                               ! RT
007110 "Library  =",                                                    ! RT
007210        AT (14,43),FAC(L$), LIB$          , CH(08),               ! RT
007310        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT
007410        AT (15,30),                                               ! RT
007510 "Volume   =",                                                    ! RT
007610        AT (15,43),FAC(V$), IVOL$         , CH(06),               ! RT
007710        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT
007810        AT (18,24), FAC(M$), MSG$,                                ! RT
007910        AT (20,30),"Press",                                       ! RT
008010        AT (20,36),FAC(HEX(84)),                                  ! RT
008110 ENTER$,                                                          ! RT
008210        AT(20,42),                                                ! RT
008310 "to continue",                                                   ! RT
008410        AT (21,17),"Press",                                       ! RT
008510        AT (21,23), FAC(HEX(84)),                                 ! RT
008610 PF16$,                                                           ! RT
008710        AT (21,28),                                               ! RT
008810 "to return to the Substitution List Menu",                       ! RT
008910 ON (BIN(16)&BIN(32)) GOTO OUT,OUT                                  RT
009110                                                                    RT
009210 /* SET UP THE USER FILE BLOCK */                                   RT
009310                                                                    RT
009410 SELECT #1,"WRDSUB",VARC,INDEXED,RECSIZE=80,KEYPOS=1,KEYLEN=20,   ! JM
009510           IOERR GOTO IOERR1                                        RT
009610                                                                    RT
009710 /* SEE IF THE SPECIFIED FILE EXISTS */                             RT
009810                                                                    RT
009910 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,MSG$)                         RT
010010 IF CODE$="Y" THEN GOTO ZZZ                                         RT
010110 IF CODE$="N" THEN CREATE                                           RT
010210 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))     RT
010310 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))     RT
010410 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))     RT
010510 GOTO FILMNU                                                        RT
010610                                                                    RT
010710 /* IF WE FALL HERE, IT MUST BE TIME TO OPEN FILE */                RT
010810 CREATE:                                                            RT
010910 ACCEPT                                                           ! RT
011010 "CRES: Word Substitution List Maintenance Subsystem",            ! JM
011110        AT (01,60),                                               ! JM
011210 "(Create File Screen)",                                          ! JM
011310        AT (02,01),                                               ! RT
011410 "================================================================! RT
```

```
011510 ===============",                                               ! RT
011610        AT (06,08),                                              ! RT
011710 "The file you have selected does not currently exist in the libra! RT
011810 ry",                                                            ! RT
011910        AT (07,08),                                              ! RT
012010 "and volume specified. For your convenience, the following are ",! JM
012110        AT (08,08),                                              ! RT
012210 "the parameters you submitted.",                                ! RT
012310        AT (11,30),                                              ! RT
012410 "File   =",                                                     ! RT
012510        AT (11,40),FAC(HEX(85)),FILE$        , CH(08),           ! RT
012610        AT (12,30),                                              ! RT
012710 "Library=",                                                     ! RT
012810        AT (12,40), FAC(HEX(85)), LIB$         , CH(08),         ! RT
012910        AT (13,30),                                              ! RT
013010 "Volume =",                                                     ! RT
013110        AT (13,40), FAC(HEX(85)), IVOL$      , CH(06),           ! RT
013210        AT (17,15),                                              ! RT
013310 "To create a new file from these parameters, press",            ! JM
013410        AT (17,65), FAC(HEX(85)),  ENTER$        , CH(05),       ! RT
013510        AT (19,26),                                              ! RT
013610 "To select another file, press",                                ! JM
013710        AT (19,56), FAC(HEX(85)),  PF1$          , CH(03),       ! RT
013810 KEYS(BIN(0)&BIN(1)&BIN(17)),KEY(OPTION),                        ! RT
013910 ON (BIN(1)&BIN(17)) GOTO FILMNU,FILMNU                            RT
014010                                                                   RT
014110         OPEN NOGETPARM #1, OUTPUT, FILE= FILE$, LIBRARY=LIB$,   ! RT
014210         VOLUME= IVOL$, SPACE=1000                                 RT
014310         IOBUFF$= " WORD SUBSTITUTION"                             RT
014410         WRITE #1, IOBUFF$                                         RT
014510         CLOSE #1                                                  RT
014610 ZZZ:  CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,0%,"RS",RSIZ%,RET%)    JM
014710        IF RSIZ%<>80 THEN ZZ1                                      JM
014810       OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,    ! JM
014910       VOLUME = IVOL$                                              RT
015210       READ #1, IOBUFF$                                            RT
015310       IF IOBUFF$=" WORD SUBSTITUTION" THEN YES                    RT
015410       CLOSE #1                                                    JM
015510 ZZ1:  M$=HEX(94)                                                  JM
015610       MSG$= ERR1$                                                 RT
015710       GOTO FILMNU                                                 RT
015810 YES:                                                              RT
015910 /* This section of code generates another screen, which asks    */ JM
016010 /* for the particular word and its corresponding operation -    */ JM
016110 /* either insert word, delete word, or modify word. The user is */ RT
016210 /* also at this point given the option of returning to the     */ JM
016310 /* Substitution List Menu, if desired.                          */ JM
016410                                                                   RT
016510 ZAP$="Please select the word:"                                    RT
016610 WORD$=" "                                                         RT
016710 WORDEQ$="word = "                                                 RT
016810 PFK$=" PF "                                                       RT
016910 OPER$="   Operation"                                              RT
017010 O$="1"                                                            RT
017110 T$="2":TH$="3":Q$="14":R$="15":S$="16"                            RT
017210 ER$ =" "                                                          RT
017310 ER1$=" "                                                          RT
```

```
017320 PASSWRD$=HEX(000102030E0F101112131E1F20)                           JM
017410 NOEXIST$="The word you are attempting to modify does not exist in! RT
017510  this list."                                                       RT
017520  X$=HEX(81)                                                        JM
017610  E$=HEX(84)                                                        RT
017710                                                                    RT
017810 CWMENU:                                                            RT
017910 ACCEPT                                                           ! RT
018010     AT (01,01),                                                  ! JM
018020    "CRES: Word Substitution List Maintenance Subsystem",         ! JM
018110       AT (01,59), "(Word & Option Screen)",                      ! JM
018210       AT (02,01), "==============================================! RT
018310 ==================================",                             ! RT
018410        AT (04,08), FAC(HEX(8C)),                                 ! RT
018510 ZAP$,                                                            ! RT
018610        AT (06,28), FAC(HEX (8C)),                                ! RT
018710 WORDEQ$ ,                                                        ! RT
018810        AT (06,36), FAC(X$), WORD$          , CH(20),             ! JM
018910        AT (08,13), FAC( E$), ER$,                                ! RT
019010        AT (09,16), FAC( E$), ER1$,                               ! RT
019110        AT (11,08),                                       "To cont! RT
019210 inue, select the PF key corresponding to the desired operation.",! RT
019310        AT (13,30), FAC(HEX(A5)),                                 ! RT
019410 PFK$ ,                                                           ! RT
019510        AT (13,38), FAC(HEX(AC)),                                 ! RT
019610 OPER$,                                                           ! RT
019710        AT (15,31), FAC(HEX(84)),                                 ! RT
019810 O$ ,                                                             ! RT
019910        AT (15,39),                                               ! RT
020010 "INSERT word",                                                   ! RT
020110        AT (16,31), FAC(HEX(84)),                                 ! RT
020210 T$ ,                                                             ! RT
020310        AT (16,39),                                               ! RT
020410 "DELETE word",                                                   ! RT
020510        AT (17,31), FAC(HEX(84)),                                 ! RT
020610 TH$,                                                             ! RT
020710        AT (17,39),                                               ! RT
020810 "MODIFY word",                                                   ! RT
020910        AT (19,31), FAC(HEX(84)),                                 ! RT
021010 Q$,                                                              ! RT
021110        AT (19,39),                                               ! RT
021210 "Protection Override",                                           ! RT
021310        AT (20,31), FAC(HEX(84)),                                 ! RT
021410 R$  ,                                                            ! RT
021510        AT (20,39),                                               ! RT
021610 "Return to Word Substitution List Selection",                    ! RT
021710        AT (21,31), FAC(HEX(84)),                                 ! RT
021810 S$  ,                                                            ! RT
021910        AT (21,39),                                               ! RT
022010 "Return to Substitution List Menu",                              ! JM
022110 KEYS(PASSWRD$),                                                  ! JM
022310     KEY(OPTION)                                                    JM
022420 IF OPTION=15 OR OPTION=31 THEN NEW                                 JM
022430 IF OPTION=16 OR OPTION=31 THEN EXIT                                JM
022510                                                                    RT
022610  FOR I=1 TO LEN(WORD$)                                             JM
022710  IF POS("'ABCDEFGHIJKLMNOPQRSTUVWXYZ-"=STR(WORD$,I,1))=0         : JM
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Input File is CRES@WSL in Library CRES@SRC on Volume CRES02

022810                           THEN ILLERR                              JM
022910  NEXT I                                                            JM
023010
023110  E$=HEX(8D)                                                        RT
023210 ER$  =" "                                                          RT
023310 ER1$=" "
023410 IF (OPTION=0)AND(DF=1) THEN DEL                                    RT
023510 IF DF=1 THEN UPDATE                                                RT
023610 IF (OPTION=14) OR (OPTION=30) THEN OVERRIDE                        RT
023710 IF STR(WORD$,1,1)<> " " THEN GOTO REED                             RT
023810                                                                    RT
023910    PRINT BELL                                                      RT
024010    ER$="        The first character cannot be blank."              RT
024110    ER1$= "   Please reenter the appropriate word and PF key."      RT
024210    E$= HEX(94)                                                     RT
024310  GOTO CWMENU                                                       RT
024410                                                                    RT
024510  ILLERR:                                                           JM
024610          ER$="Illegal character found in word - please reenter."   JM
024710          E$=HEX(94): GOTO CWMENU                                   JM
024810
024910 OVERRIDE:                                                          RT
025010    IF NF=1 AND P%=1 THEN CHK                                       RT
025110    ER$="Please check if word exists first by selecting an option." RT
025210    E$=HEX(84)                                                      RT
025310  GOTO  CWMENU                                                      RT
025410                                                                    RT
025510 CHK:                                                               RT
025610    IF USER$=PROTECT$ THEN REMOVE                                   RT
025710    ER$= "You don't have the clearance to override the protect."    RT
025810    ER1$= " "                                                       RT
025910    E$= HEX(84)                                                     RT
026010  GOTO CWMENU                                                       RT
026110                          ,                                         RT
026210 REMOVE: PROTECT$= " " :P%=0                                        RT
026310           READ #1, HOLD, KEY=WORD$,IOBUFF$                         RT
026410           $PACK (F=F1$) IOBUFF$ FROM WORD$, SUBONE$,SUBTWO$,     : RT
026510                 PRTOSPC$,PPFL$,NEGFL$,PROTECT$                     RT
026610           REWRITE #1, IOBUFF$, DATA GOTO IOERR2                    RT
026710           ER$= "            You may now select your option."       RT
026810           ER1$=" "                                                 RT
026910           E$= HEX(84)                                              RT
027010        GOTO CWMENU                                                 RT
027110           .                                                        RT
027210 IOERR1:  PRINT                                                     RT
027310           M$=HEX(94)                                               RT
027410           MSG$= ERR1$                                              RT
027510           CLOSE #1                                                 RT
027610           GOTO FILMNU                                              RT
027710                                                                    RT
027810 IOERR2:  PRINT                                                     RT
027910           PRINT HEX(94),"Error occurred on file "; FILE$           RT
028010           PRINT HEX(94),"Error code = "; FS(#1)                    RT
028110           STOP "Touch ENTER to return to menu."                    RT
028210           GOTO CWMENU                                              RT
028310                                                                    RT
028410 REED: IF OPTION<>0 THEN SRCH                                       RT
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Input File is CRES@WSL in Library CRES@SRC on Volume CRES02

028510 ER$= "                   Command missing."                         RT
028610  E$= HEX(94)                                                    RT
028710 GOTO CWMENU                                                     RT
028715                                                                 RT
028720 SRCH: P%=1                                                      RT
028810       READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,       : RT
028910              DATA GOTO IOERR2                                   RT
029010                                                                 RT
029110      NF=1                                                       RT
029210                                                                 RT
029310     /* Unpack and check if currently being modified by another */ RT
029410                                                                 RT
029510        $UNPACK (F=F1$) IOBUFF$ TO WORD$,SUBONE$,SUBTWO$,      : RT
029610             PRTOSPC$,PPFL$,NEGFL$,PROTECT$                      RT
029710        IF PROTECT$= " " THEN NOW                                RT
029810          CALL "FINDUSER" ADDR(PROTECT$,USERNAME$,WRKST%)        RT
029910          CONVERT WRKST% TO WRKST$, PIC(###)                     RT
030010           E$= HEX(94)                                           RT
030110          ER$="      Sorry, "& USERNAME$ &" is currently editing " RT
030210          ER1$="     '" & WORD$ & "'"& " at workstation "& WRKST$  RT
030310          REWRITE #1, IOBUFF$                                    RT
030410          GOTO CWMENU                                            RT
030510                                                                 RT
030610 NOW:     PROTECT$= USER$                                        RT
030710         $PACK (F=F1$) IOBUFF$ FROM WORD$,SUBONE$,SUBTWO$,     : RT
030810             PRTOSPC$,PPFL$,NEGFL$,PROTECT$                      RT
030910         REWRITE #1, IOBUFF$, DATA GOTO IOERR2                   RT
031010                                                                 RT
031110      /* NOW BRANCH TO THE OPTION SELECTED */                    RT
031210 OPT:  ON OPTION GOTO INSERT,DELET,MODIFY                        RT
031310       ON OPTION-16 GOTO INSERT,DELET,MODIFY                     RT
031410                                                                 RT
031510 NOTFOUND: NF=0                                                  RT
031610           GOTO OPT                                              RT
031710                                                                 RT
031810 INSERT:                                                         RT
031910        /* NF=0 indicates the word doesn't yet exist so go ahead */ RT
032010        /* and insert. NF=1 indicates the word exists.        */ RT
032110                                                                 RT
032210         IF NF=1 THEN EXIST                                      RT
032310         MOD$= "(Insert Screen)"                                 RT
032320         MESING$="inserting word"                                JM
032410         SUBONE$,SUBTWO$,PRTOSPC$,PPFL$,NEGFL$=" "               RT
032510         PROTECT$= USER$                                         RT
032610         $PACK (F=F1$) IOBUFF$ FROM WORD$, SUBONE$,SUBTWO$,    : RT
032710              PRTOSPC$,PPFL$,NEGFL$,PROTECT$                     RT
032810         WRITE #1, IOBUFF$, DATA GOTO IOERR2                     RT
032910         GOTO INS                                                RT
033010                                                                 RT
033110 /* Coming from insert with the word currently existing  */      JM
033310                                                                 RT
033410 EXIST:                                                          RT
033510  ER$="      The word '" & WORD$ & "' already exists in this list." RT
033610       E$= HEX(94)                                               RT
033710      READ #1, HOLD, KEY= WORD$,IOBUFF$                          RT
033810      PROTECT$=" " :P%=0                                         RT
033910      $PACK (F=F1$) IOBUFF$ FROM WORD$, SUBONE$,SUBTWO$,       : RT
```

```
034010              PRTOSPC$,PPFL$,NEGFL$,PROTECT$                          RT
034110       REWRITE #1, IOBUFF$, DATA GOTO IOERR2                          RT
034210       GOTO CWMENU                                                    RT
034310                                                                      RT
034410 DELET: IF NF=0 THEN NODEL                                            RT
034510        DF=1                                                          RT
034610        ER$= "         Press ENTER to confirm deletion of "& WORD$    RT
034710        ER1$="        or press PF14 to cancel the deletion."          RT
034720        X$=HEX(84)                                                    JM
034730        PASSWRD$=HEX(000E1E)                                          JM
034810        E$= HEX(94)                                                   RT
034910    GOTO CWMENU                                                       RT
035010                                                                      RT
035110 DEL:   READ #1, HOLD,KEY=WORD$,IOBUFF$                               RT
035210        DELETE #1                                                     RT
035310        DF=0                                                          RT
035410    ER$= "    '"&WORD$&"' deleted - Please select your next word."    RT
035510        ZAP$=" "                                                      RT
035520        X$=HEX(81)                                                    JM
035530        PASSWRD$=HEX(000102030E0F101112131E1F20)                      JM
035610        E$= HEX(8C)                                                   RT
035710        WORD$=" "                                                     RT
035720        NF=0                                                          JM
035810     GOTO CWMENU                                                      RT
035910                                                                      RT
036010 NODEL: ER$="   The word '"&WORD$& "' does not exist in this list."   RT
036110        E$= HEX(94)                                                   RT
036210     GOTO CWMENU                                                      RT
036310                                                                      RT
036410 MODIFY: IF NF=1 THEN GETIT                                           RT
036510         ER$ = NOEXIST$        /* if word not in list,  */            RT
036610          E$=HEX(94)           /* set up message and fac and */       RT
036710         GOTO CWMENU           /* go back up to previous screen */    RT
036810                                ,                                     RT
036910 GETIT:                                                               JM
037210                                                                      RT
037310 MOD$          ="(Modify Screen)"                                     RT
037320 MESING$="modifying word"                                             JM
037410 INS:                                                                 RT
037510 DEF$          ="CURRENT"                                             RT
037610 A5$           ="ATTRIBUTES"                                          RT
037710 LEG$          ="LEGAL"                                               RT
037810 A7$           ="ENTRIES"                                             RT
037910 ER1$          =" "                                                   RT
038010 XYZ$          =HEX(8C)                                               RT
038110 ERONINS:                                                             RT
038210 ACCEPT                                                             ! RT
038310        AT (01,01),                                                 ! RT
038410 "CRES: Word Substitution List Maintenance Subsystem",              ! JM
038510        AT (01,66), FAC(HEX(8C)),MOD$,                              ! RT
038610        AT (02,01), "===============================================! RT
038710 ====================================",                             ! RT
038810        AT (03,07),                                                 ! RT
038910 "For an explanation of legal entries, press",                      ! JM
039010        AT (03,50),FAC(HEX(84)), PF1$,                              ! RT
039110        AT (03,54),                                                 ! RT
039210 "; otherwise, enter",                                              ! RT
```

```
039310         AT (04,07),                                                                   ! RT
039410 "the appropriate attribute(s).",                                                      ! RT
039510         AT (07,31),FAC(HEX(AD)), DEF$ ,                                               ! RT
039610         AT (07,39),FAC(HEX(AD)), A5$  ,                                               ! RT
039710         AT (07,58),FAC(HEX(AD)), LEG$ ,                                               ! RT
039810         AT (07,64),FAC(HEX(AD)), A7$  ,                                               ! RT
039910         AT (09,07),                                                                   ! RT
040010 "WORD:",                                                                              ! RT
040110         AT (09,15),FAC(HEX(84)), WORD$,                                               ! RT
040210         RANGE ( "!           "          , "¢¢¢¢¢¢¢¢¢¢¢¢"),                            ! RT
040310         AT (11,07),                                                                   ! RT
040410 "FIRST SUBSTITUTE:",                                                                  ! RT
040510         AT (11,30), SUBONE$,CH(20),                                                   ! RT
040610         AT (12,07),                                                                   ! RT
040710 "SECOND SUBSTITUTE:",                                                                 ! RT
040810         AT (12,30), SUBTWO$,CH(20),                                                   ! RT
040910         AT (14,07),                                                                   ! RT
041010 "PART OF SPEECH:",                                                                    ! RT
041110         AT (14,41),FAC(HEX(80)),PRTOSPC$, CH(01),                                     ! RT
041210         AT (14,57),                                                                   ! RT
041310 "(ABCIJNOPVadjn)",                                                                    ! RT
041410         AT (15,07),                                                                   ! RT
041510 "PAST PARTICIPLE:",                                                                   ! RT
041610         AT (15,41), PPFL$              , CH(01),                                      ! RT
041710         AT (15,57),                                                                   ! RT
041810 "(* or NO ENTRY)",                                                                    ! RT
041910         AT (16,07),                                                                   ! RT
042010 "NEGATIVE:",                                                                          ! RT
042110         AT (16,41), NEGFL$                 , CH(01),                                  ! RT
042210         AT (16,57),                                                                   ! RT
042310 "(* or NO ENTRY)",                                                                    ! RT
042410         AT (18,18), FAC(XYZ$), ER$,                                                   ! RT
042510         AT (21,15),"Use",FAC(HEX(85)),TAB$,"or",FAC(HEX(85)),                         ! RT
042610         BTAB$,"to move between modifiable fields.",                                   ! RT
042710         AT (23,30),                                                                   ! RT
042810 "Press",                                                                              ! RT
042910         AT (23,36),FAC(HEX(84)),ENTER$,                                               ! RT
043010         AT (23,42),                                                                   ! RT
043110 "to continue",                                                                        ! RT
043210         AT (24,21),                                                                   ! JM
043310 "Press",AT(24,27),FAC(HEX(84)),PF16$,AT(24,32),                                       ! JM
043410 "to exit without ",                                                                   ! JM
043420         AT (24,48), FAC(HEX(8C)), MESING$,                                            ! JM
043510 KEYS(BIN(0)&BIN(16)&BIN(32)&BIN(1)&BIN(17)),KEY(OPTION),                              ! RT
043610 ON (BIN(16)&BIN(32)) GOTO EXMOD,EXMOD                                                   RT
043710                                                                                         RT
043810 IF (OPTION=1) OR (OPTION=17) THEN DEFIN                                                 RT
043910                                                                                         RT
044010 IF SUBONE$<>" " THEN CHKREST                                                            RT
044110 ER$="                   The First Substitute can not be blank."                         RT
044210 XYZ$= HEX(94)                                                                           RT
044310 GOTO ERONINS                                                                            RT
044410                                                                                         RT
044510 /*  Check for validity of entries  */                                                   RT
044610                                                                                         RT
044710 CHKREST: IF POS("ABCIJNOPVadjn"=PRTOSPC$)>0 THEN NEXT1                                  RT
044810              ER$ = "        Part of Speech value is illegal."                           RT
```

```
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Input File is CRES@WSL in Library CRES@SRC on Volume CRES02

044910            XYZ$ = HEX(94)                                              RT
045010            GOTO ERONINS                                                RT
045110                                                                        RT
045210 NEXT1:     IF POS(" *"=PPFL$)>0 THEN NEXT2                             RT
045310            ER$ = "      Past Participle value is illegal."             RT
045410            XYZ$ = HEX(94)                                              RT
045510            GOTO ERONINS                                                RT
045610 NEXT2:     IF POS(" *"=NEGFL$)>0 THEN UPDATE                           RT
045710            ER$ = "           Negative value is illegal."               RT
045810            XYZ$ = HEX(94)                                              RT
045910            GOTO ERONINS                                                RT
046010                                                                        RT
046110 EXMOD:    READ #1, HOLD,KEY=WORD$,IOBUFF$                              RT
046210           IF NF=1 THEN NOCHAN                                          RT
046310           DELETE #1                                                    RT
046410           ER$= "          The word '"&WORD$&"' was not inserted."      RT
046510           GOTO CWMENU                                                  RT
046610                                                                        RT
046710 NOCHAN:   PROTECT$ = " " :P%=0                                         RT
046810           $PACK (F=F1$) IOBUFF$ FROM WORD$,SUBONE$,SUBTWO$,          ! RT
046910                PRTOSPC$,PPFL$,NEGFL$,PROTECT$                          RT
047010           REWRITE #1,IOBUFF$,DATA GOTO IOERR2                          RT
047110           ER$="                         No changes were saved."        RT
047210           GOTO CWMENU                                                  RT
047310                                                                        RT
047410 UPDATE:   READ #1, HOLD, KEY=WORD$, IOBUFF$                            RT
047510           PROTECT$ = " " :P%=0                                         RT
047610           $PACK (F=F1$) IOBUFF$ FROM WORD$,SUBONE$,SUBTWO$,          ! RT
047710                PRTOSPC$,PPFL$,NEGFL$,PROTECT$                          RT
047810           REWRITE #1,IOBUFF$,DATA GOTO IOERR2                          RT
047910           ER1$= " "
048010           IF NF=0 THEN RITE                                            RT
048110           IF DF=1 THEN EXITDEL                                         RT
048210           ZAP$=" "                                                     RT
048310 ER$="            '"&WORD$&"' updated - Please select next word."       JM
048410            E$=HEX(8C)                                                  RT
048510           WORD$=" "                                                    RT
048610           GOTO CWMENU                                                  RT
048710 RITE:                                                                  RT
048810 ER$= "    '"&WORD$&"' inserted - Please select your next word."        RT
048910           ZAP$=" "                                                     RT
049010            E$= HEX(8C)                                                 RT
049110           WORD$=" "                                                    RT
049210           GOTO CWMENU                                                  RT
049310                                                                        RT
049410 EXITDEL: DF=0                                                          RT
049510            ER$= "                   Deletion cancelled."               RT
049520            X$=HEX(81)                                                  JM
049530            PASSWRD$=HEX(000102030E0F101112131E1F20)                    JM
049610            GOTO CWMENU                                                 RT
049710                                                                        RT
049810 DEFIN:                                                                 RT
049811 ACCEPT                                                               !
049812         AT (01,01),                                                  !
049813 "CRES: Word Substitution List Maint Subsystem",                      !
049814         AT (01,51),                                                  ! JM
049815 "(Definition of Entries Screen)",                                    ! JM
```

```
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Input File is CRES@WSL in Library CRES@SRC on Volume CRES02

049816        AT (02,01),"==============================================:
049817 ==================================",                              :
049818        AT (05,08),  FAC(HEX(AD)),       ITLE5$       , CH(14),    :  JM
049819        AT (05,49),  FAC(HEX(AD)),       ITLE6$       , CH(10),    :  JM
049820        AT (07,03),  FAC(HEX(84)),      P$(1)         , CH(03),    :
049821        AT (07,08),                                                :
049822 "Adjective ...............Modifies a noun or pronoun",             :
049823        AT (08,03), FAC(HEX(84)),       P$(2)         , CH(03),    :
049824        AT (08,08),                                                :
049825 "Adjective/verb .........A word that may function as an adjective:
049826  or verb",                                                        :
049827        AT (09,03),  FAC(HEX(84)),      P$(3)         , CH(03),    :
049828        AT (09,08),                                                :
049829 "Adverb .................Modifies a verb, adjective, or adverb",  :
049830        AT (10,03),  FAC(HEX(84)),      P$(4)         , CH(03),    :
049831        AT (10,08),                                                :
049832 "Adverb/verb ............A word that may function as an adverb or:
049833  verb",                                                           :
049834        AT (11,03), FAC(HEX(84)),       P$(5)         , CH(03),    :
049835        AT (11,08),                                                :
049836 "Article ................A limiting adjective before a noun (e.g.:
049837  a, the)",                                                        :
049838        AT (12,03), FAC(HEX(84)),       P$(6)         , CH(03),    :
049839        AT (12,08),                                                :
049840 "Conjunction ............Links phrases or clauses (e.g. or)",      :
049841        AT (13,03),  FAC(HEX(84)),      P$(7)         , CH(03),    :
049842        AT (13,08),                                                :
049843 "Interjection ...........Used for simple exclamations (e.g. Oh!)":
049844 ,                                                                 :
049845        AT (14,03),  FAC(HEX(84)),      P$(8)         , CH(03),    :
049846        AT (14,08),                                                :
049847 "Noun ...................Indicates a person, place, or thing",    :
049848        AT (15,03),  FAC(HEX(84)),      P$(13)         , CH(03),   :
049849        AT (15,08),             ,                                  :
049850 "Noun/adjective .........A word that may function as a noun or ad:
049851 jective",                                                         :
049852        AT (16,03),  FAC(HEX(84)),      P$(9)         , CH(03),    :
049853        AT (16,08),                                                :
049854 "Noun/verb ..............Word that may function as a noun or verb:
049855 ",                                                                :
049856        AT (17,03), FAC(HEX(84)),       P$(10)        , CH(03),    :
049857        AT (17,08),                                                :
049858 "Preposition ............Expresses a relationship between two ele:
049859 ments of ",                                                       :
049860        AT (18,08),                                                :
049861 "                        a sentence (e.g. in, on, by, to, since) :  JM
049862 ",                                                                :
049863        AT (19,03),  FAC(HEX(84)),      P$(11)        , CH(03),    :
049864        AT (19,08),                                                :
049865 "Pronoun ................Word that may be used as a substitute fo:
049866 r a noun",                                                        :
049867        AT (20,08),                                                :
049868 "                        (e.g. I, you, she, what,....)",         :  JM
049869        AT (21,03),  FAC(HEX(84)),      P$(12)        , CH(03),    :
049870        AT (21,08),                                                :
049871 "Verb ...................Denotes an action or occurrence",        :
049872        AT (23,20),                                                :
```

```
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Input File is CRES@WSL in Library CRES@SRC on Volume CRES02

049873 "Press",                                                   !
049874        AT (23,26),   FAC(HEX(84)),      PF1$         , CH(03), !
049875        AT (23,30),                                         !
049876 "to return to the previous screen",                        !
056210  KEYS(BIN(1)&BIN(17)), ON (BIN(1)&BIN(17)) GOTO ERONINS,ERONINS    RT
056310                                                                    RT
056410 NEW: PRINT PAGE, AT(12,28),HEX(84);"Closing last file"             RT
056510      FOR I= 1 TO 50000:NEXT I                                      RT
056610      FILE$=" "
056710    . CLOSE #1                                                      RT
056810      GOTO AGAIN                                                    RT
056910                                                                    RT
057010 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                 RT
057110 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                 RT
057210 DEF FN'7(MSG$,B$,C$,D$)                                            RT
057310      PRINT                                                         RT
057410      M$=HEX(94)                                                    RT
057510      G$=B$                                                         RT
057610      L$=C$                                                         RT
057710      V$=D$                                                         RT
057810 RETURN                                                             RT
057910                                                                    RT
058010 EXIT: CLOSE #1                                                     RT
058110 OUT:  /* RETURNING TO SUBSTITUTION LIST MENU */                    JM
```

Print Word Substitute List (CRES@WSP)

CRES@WSP in library CRES@SRC is the BASIC language program to print the Word Substitute List. The object language version is CRES@WSP in library CRES@SAV.

This program first allows the user to specify the Word Substitute List to be printed. Then the program enables the user to print out either the entire Word Substitute List or a specified portion. This printout can be displayed at the terminal or sent to the printer. An optional subtitle of up to two lines can be included for the printout, and the number of lines per page may be specified as some value less than the default value of 60.

A complete program listing follows. Appendix C contains a sample flowchart.

```
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Input File is CRES@WSP in Library CRES@SRC on Volume CRES02

000010 /*  This is the CRES WORD SUBSTITUTION LIST PRINT PROGRAM        */  JM
000015 /*                                                               */  RT
000020 /*                AUTHORS: Rose Tank and John Mears              */  RT
000025 /*                Date:    October 12, 1983                      */  RT
000030 /*                                                               */  RT
000035                                                                      RT
000040 /* The following code sets up a screen, which asks for the       */  RT
000045 /* name of the file containing the word substitution list        */  RT
000050 /* to be printed.  It also provides the opportunity to change    */  RT
000055 /* the library and volume names which are set to the appro-      */  RT
000060 /* priate defaults through the "Extract" system routine.         */  RT
000065                                                                      RT
000070                                                                      RT
000075 DIM WORD$24,ERR1$53,CODE$1,MSG$53,F$40,G$1,CMSG$255,MSG2$40          RT
000080 DIM IOBUFF$70,ERR2$40,FIL$22                                         RT
000085 DIM FILE$08,LIB$08,RLIB$8,RVOL$6,SLIB$8,SVOL$6                       JM
000090 DIM IVOL$06,HEADER$51,L$1,V$1,B$1,C$2,D$8,M$1,MSK$2                  RT
000095 DIM SBTITLE$20,SBTITL1$20                                            RT
000100 DIM EN$             05                                               RT
000105 DIM ER$             79                                               RT
000110 DIM STARTPH$        24                                               RT
000115 DIM ENDPH$          24                                               RT
000120 DIM TP$             08                                               RT
000125 DIM PF15$           04                                               RT
000130 DIM PF16$           04                                               RT
000135                                                                      RT
000140 EN$="ENTER"                                                          RT
000145 PF15$         ="PF15"                                                RT
000150 PF16$="PF16"                                                         RT
000155 HEADER$     ="CRES WORD SUBSTITUTION LIST PRINT SUBSYSTEM"           RT
000160 FIL$          ="Word Substitution List"                              RT
000170 F$= "Filename not found on (library/volume)."                        RT
000175 ERR1$= "I/O ERROR - Please specify WORD SUBSTITUTION list."          RT
000180 ERR2$="I/O ERROR - Internal format not matched."                     RT
000185 CALL "EXTRACT" ADDR("IV",IVOL$,"IL",LIB$,"RL",RLIB$,"RV",RVOL$,  !  JM
000190       "SL",SLIB$,"SV",SVOL$)                                         JM
000192 FILE$="WRDSBLST"                                                     JM
000195 AGAIN:  G$=HEX(81)                                                   RT
000200         MSG$=" ":L$=HEX(81)                                          RT
000205         V$=HEX(81): M$=HEX(8D)                                       RT
000210                                                                      RT
000215 FILMNU:                                                              RT
000220 ACCEPT                                                           !  RT
000225        AT (01,01),                                               !  RT
000230 "CRES: Word Substitution List Print Subsystem",                  !  RT
000235        AT (01,57),                                               !  RT
000240 "(File Selection Screen)",                                       !  RT
000245        AT (02,01),                                               !  RT
000250 "================================================================!  RT
000255 ===============",                                                !  RT
000260        AT (04,10),                                               !  RT
000265 "Welcome to the",                                                !  RT
000270        AT (04,26), FAC(HEX(85)),                                 !  RT
000275 HEADER$,                                                         !  RT
000280        AT (07,10),                                               !  RT
000285 "Please specify the",                                            !  RT
000290        AT (07,29), FAC(HEX(84)),                                 !  RT
```

```
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Input File is CRES@WSP in Library CRES@SRC on Volume CRES02

000295 FIL$,                                                            ! RT
000300        AT (07,52),                                               ! RT
000305 "you want to print,",                                            ! RT
000310        AT (08,19),                                               ! RT
000315 "if the default values are not satisfactory.",                   ! RT
000350        AT (13,30),                                               ! RT
000355 "File     =",                                                    ! RT
000360        AT (13,43),FAC(G$),FILE$           , CH(08),              ! RT
000365        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
000370        AT (14,30),                                               ! RT
000375 "Library  =",                                                    ! RT
000380        AT (14,43),FAC(L$), LIB$            , CH(08),             ! RT
000385        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
000390        AT (15,30),                                               ! RT
000395 "Volume   =",                                                    ! RT
000400        AT (15,43),FAC(V$), IVOL$          , CH(06),              ! RT
000405        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
000410        AT (18,20), FAC(M$), MSG$,                                ! RT
000415        AT (20,30),"Press",                                       ! RT
000420        AT (20,36),FAC(HEX(84)),                                  ! RT
000425 EN$,                                                             ! RT
000430        AT(20,42),                                                ! RT
000435 "to continue",                                                   ! RT
000440        AT (21,17),"Press",                                       ! RT
000445        AT (21,23), FAC(HEX(84)),                                 ! RT
000450 PF16$,                                                           ! RT
000455        AT (21,28),                                               ! RT
000460 "to return to the Substitution List Menu",                       ! RT
000465 ON (BIN(16)&BIN(32)) GOTO OUT                                      RT
000475                                                                    RT
000480 /* SET UP THE USER FILE BLOCK */                                   RT
000485                                                                    RT
000490 SELECT #1,"WRDSUB",VARC,INDEXED,RECSIZE=80,KEYPOS=1,KEYLEN=20,   ! RT
000495           IOERR GOTO IOERR1                                        RT
000500                                                                    RT
000505 SELECT #2,"PRTFILE",PRINTER,RECSIZE=80,IOERR GOTO IOERR3           RT
000510                                                                    RT
000515 /* SEE IF THE SPECIFIED FILE EXISTS */                             RT
000520                                                                    RT
000525 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,MSG$)                         RT
000530 IF CODE$="Y" THEN ZZZ                                              RT
000535 IF CODE$="N" THEN GOSUB'7(F$,HEX(91),HEX(81),HEX(81))              RT
000540 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))     RT
000545 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))     RT
000550 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))     RT
000555 GOTO FILMNU                                                        RT
000560                                                                    RT
000570 /* IS THIS REALLY A WORD SUBSTITUTION LIST?    */                  RT
000575                                                                    RT
000580 ZZZ:                                                               RT
000585 I%=0                                                               RT
000590 CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,I%,"RS",RS%,R%)               RT
000595 IF RS%<>80 THEN IOERR2                                             RT
000600                                                                    RT
000605 /* IF WE FALL HERE, IT MUST BE TIME TO OPEN FILE */                RT
000610                                                                    RT
000615      OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,      ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00       14:30 10/31/84   Page      3
Input File is CRES@WSP in Library CRES@SRC on Volume CRES02

000620      VOLUME = IVOL$                                                  RT
000625                                                                      RT
000630 /* This section of code generates the second screen, which asks */ RT
000635 /* for the particular word interval and its corresponding       */ RT
000640 /* print  operation.  The user is given the option of returning */ RT
000645 /* to the previous screen to select a new word file to print,   */ RT
000650 /* or of returning to the substitution list menu.               */ JM
000655                                                                      RT
000660                                                                      RT
000665 ER$ =" "                                                             RT
000670 CWMENU:                                                              RT
000675       WORD$ = " "                                                    RT
000680       SBTITL1$      =" "                                             RT
000685 BALONEY:                                                             RT
000690       STARTPH$      ="FIRST"                                         RT
000695       ENDPH$        ="LAST"                                          RT
000700       TP$           ="TERMINAL"                                      RT
000705       LPP%=50                                                        RT
000710                                                                      RT
000715 PRINTSCR:                                                            RT
000720 ACCEPT                                                             ! RT
000725        AT (01,03),                                                 ! RT
000730 "CRES: Word Substitution List Print Subsystem",                    ! RT
000735        AT (01,66),                                                 ! RT
000740 "(Print Screen)",                                                  ! RT
000745        AT (02,03),                                                 ! RT
000750 "==============================================================! RT
000755 =============",                                                    ! RT
000760        AT (04,13),                                                 ! RT
000765 "To print a range of lines, fill in the information below.",      ! RT
000770        AT (06,02), FAC(HEX(85)),                                   ! RT
000775  ER$,                                                              ! RT
000780        AT (08,22),                                                 ! RT
000785 "Subtitle of list =",                                              ! RT
000790        AT (08,42), FAC(HEX(81)),SBTITLE$,CH(20),                   ! RT
000795        AT (09,42), FAC(HEX(81)),SBTITL1$,CH(20),                   ! RT
000800        AT (11,22),                                                 ! RT
000805 "Starting word    =",                                              ! RT
000810        AT (11,42),FAC(HEX(81)), STARTPH$, CH(24),                  ! RT
000815        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT
000820        AT (12,22),                                                 ! RT
000825 "Ending word      =",                                              ! RT
000830        AT (12,42), FAC(HEX(81)), ENDPH$, CH(24),                   ! RT
000835        RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                  ! RT
000840        AT (14,22),                                                 ! RT
000845 "Lines per page   =",                                              ! RT
000850        AT (14,42), FAC(HEX(82)), LPP%, PIC(##),                    ! RT
000855        AT (16,22),                                                 ! RT
000860 "Print at (TERMINAL/PRINTER) =",                                   ! RT
000865        AT (16,53), FAC(HEX(81)), TP$, CH(08),                      ! RT
000870        AT (20,32),                                                 ! RT
000875 "Press",                                                           ! RT
000880        AT (20,38), FAC(HEX(85)), EN$, CH(05),                      ! RT
000885        AT (20,44),                                                 ! RT
000890 "to print",                                                        ! RT
000895        AT (21,17),                                                 ! RT
000900 "Press",                                                           ! RT
```

```
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Input File is CRES@WSP in Library CRES@SRC on Volume CRES02

000905       AT (21,23), FAC(HEX(84)), PF15$, CH(04),                 ! RT
000910       AT (21,28),                                              ! RT
000915 "to select another Word Substitution List",                    ! RT
000920       AT (22,17),                                              ! RT
000925 "Press",                                                       ! RT
000930       AT (22,23), FAC(HEX(84)), PF16$, CH(04),                 ! RT
000935       AT (22,28),                                              ! RT
000940 "to return to the Substitution List Menu",                     ! RT
000945 KEYS(BIN(0)&BIN(15)&BIN(16)&BIN(31)&BIN(32)),                  ! RT
000950 ON (BIN(15)&BIN(31)&BIN(16)&BIN(32)) GOTO NEW,NEW,EXIT,EXIT      RT
000955             IF STR(TP$,1,1) = "P" THEN NEXT11                    RT
000960             IF STR(TP$,1,1) <> "T" THEN TERMPR                   RT
000965 NEXT11:     IF LPP% < 51 THEN NEXT13                             RT
000970             ER$="'Lines per page' can be at most 50."            RT
000975             GOTO PRINTSCR                                        RT
000980 IOERR1:  PRINT                                                   RT
000985          PRINT BELL,HEX(94),ERR1$                                RT
000990          FOR I=1 TO 200000 :NEXT I                               RT
000995          GOTO FILMNU                                             RT
001000                                                                  RT
001005 IOERR2:  MSG$=ERR1$                                              RT
001010          M$= HEX(84)                                             RT
001015          GOTO FILMNU                                             RT
001020 IOERR3:  PRINT                                                   RT
001025          PRINT BELL, HEX(94), ERR2$                              RT
001030          FOR I=1 TO 500000 :NEXT I                               RT
001035          CLOSE #2                                                RT
001040          GOTO BALONEY                                            RT
001045 TERMPR:                                                          RT
001050 ER$="'Print at ' has only legal values TERMINAL or PRINTER."     RT
001055     GOTO PRINTSCR                                                RT
001060                                                                  RT
001065 REX: ER$="           'Starting word' comes after 'Ending word'." RT
001070     GOTO PRINTSCR                                                RT
001075                                                                  RT
001080                                                                  RT
001085 NEXT13: IF STARTPH$="FIRST" OR ENDPH$="LAST" THEN FORD           JM
001090        IF STARTPH$>ENDPH$ THEN REX                               JM
001095                                                                  RT
001100 /* Now it's time to generate our print file name */              RT
001105                                                                  RT
001110 FORD:   DAT$= DATE                                               JM
001115         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)    RT
001120         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)                      RT
001125                                                                  RT
001130 DISPLAY                                                        ! JM
001135       AT (01,03),                                              ! RT
001140 "CRES: Word Substitution List Print Subsystem",                ! JM
001145       AT (01,61),                                              ! RT
001150 "(Generation Screen)",                                         ! JM
001155       AT (02,03),                                              ! RT
001160 "==========================================================! RT
001165 =============",                                                ! RT
001170        AT (12,23),                                             ! RT
001175 "Output file now being generated!"                               JM
001180        PFILE$="WRDSUB##"                                         RT
001185        I%=0                                                      RT
```

```
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Input File is CRES@WSP in Library CRES@SRC on Volume CRES02

001190 NEXT14:  CONVERT I% TO STR(PFILE$,7,2),PIC(00)                       RT
001195          I%=I%+1                                                     RT
001200          CALL "LIMITS" (PFILE$,SLIB$,SVOL$,CODE$,MSG$)               JM
001205          IF CODE$="Y" THEN NEXT14                                    RT
001207          IF CODE$="E" THEN ER$ = STR(MSG$,3)                         JM
001209          IF CODE$="E" THEN PRINTSCR                                  JM
001210          OPEN NOGETPARM #2,OUTPUT,FILE=PFILE$,LIBRARY=SLIB$,       ! JM
001215              VOLUME=SVOL$,SPACE=8000                                 JM
001220          GOSUB TTL_PGE                                               RT
001225          IF STARTPH$ = "FIRST" THEN STARTPH$ = ALL(HEX(00))          RT
001230          IF ENDPH$ = "LAST" THEN ENDPH$ = ALL(HEX(FF))               RT
001235          PAGE% = 1                                                   RT
001240          RECS% = 1                                                   RT
001245          READ #1, KEY>=STARTPH$,IOBUFF$                              RT
001250          GOSUB HEADER                                                RT
001252          IF STR(IOBUFF$,1,18)=" WORD SUBSTITUTION" THEN READ #1,   ! JM
001254          IOBUFF$, EOD GOTO HOME                                      JM
001255          IF STR(IOBUFF$,,20)>STR(ENDPH$,,20) THEN HOME               RT
001260          GOTO KNOT                                                   RT
001265 AGAN:    READ #1, IOBUFF$,EOD GOTO HOME                              RT
001270          IF STR(IOBUFF$,,20)>STR(ENDPH$,,20) THEN HOME               RT
001275          IF RECS% = 1 THEN GOSUB HEADER                              RT
001280 KNOT:                                                                RT
001285          WRITE #2, USING CAT6,C$,STR(IOBUFF$,1,20),                ! RT
001290          STR(IOBUFF$,21,20),STR(IOBUFF$,41,15)                       RT
001300          RECS%=RECS%+1                                               RT
001305          IF RECS%>LPP% THEN RECS%=1                                  RT
001310          IF RECS%=1 THEN PAGE%=PAGE%+1                               RT
001315          GOTO AGAN                                                   RT
001320 HOME:    WRITE #2, USING DOG, C$                                     RT
001325          WRITE #2, USING DOG, C$                                     RT
001330          WRITE #2, USING CAT8, C$                                    RT
001335          CLOSE#2                                                     RT
001340          IF STR(TP$,1,1) ="P" THEN MESS                              RT
001345          CLOSE WS                                                    RT
001350          MSG2$ = "CANCEL Processing"                                 RT
001355          MSK$=HEX(00)                                                RT
001360          CMSG$ = " "                                                 RT
001365         CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,     ! JM
001370          SLIB$,SVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)        JM
001375          ER$ = " "                                                   RT
001380          IF C%<>0 OR R%<>0                                         ! RT
001385          THEN ER$ = STR(CMSG$,141)                                   RT
001390          GOTO CWMENU                                                 RT
001395                                                                      RT
001400 MESS: ER$="         File "&PFILE$&" in Library "& SLIB$ &" on " & ! JM
001405   SVOL$ &" generated."                                               JM
001410          GOTO BALONEY                                                RT
001415                                                                      RT
001420 NEW: PRINT PAGE, AT(12,28),HEX(84);"Closing last file"               RT
001425      FOR I= 1 TO 50000 :NEXT I                                       RT
001430      CLOSE #1:FILE$= " "                                             RT
001435      GOTO AGAIN                                                      RT
001440                                                                      RT
001445 TTL_PGE:                                                             RT
001450         C$=HEX(8001)                                                 RT
001455         WRITE #2, USING DOG, C$                                      RT
```

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```
Wang VS Integrated Editor - Version  6.10.00        14:30 10/31/84   Page      6
Input File is CRES@WSP in Library CRES@SRC on Volume CRES02

001460         C$ = HEX(0015)                                              RT
001465         WRITE #2, USING DOG, C$                                     RT
001470         C$ = HEX(0001)                                              RT
001475         WRITE #2, USING DOG1, C$                                    RT
001480         WRITE #2, USING DOG2, C$                                    RT
001485         WRITE #2, USING DOG0, C$,D$,T$                              RT
001490         WRITE #2, USING DOG3, C$                                    RT
001495         WRITE #2, USING DOG2, C$                                    RT
001500    .    WRITE #2, USING DOG1, C$                                    RT
001505         WRITE #2, USING DOG2, C$                                    RT
001510         IF SBTITLE$ = "                        " THEN GERRY         RT
001515         WRITE #2, USING DOG4, C$, SBTITLE$                          RT
001520         IF SBTITL1$<>"                       " THEN WRITE #2, USING  ! RT
001525 DOG10, C$, SBTITL1$                                                 RT
001530         WRITE #2, USING DOG2, C$                                    RT
001535 GERRY:  WRITE #2, USING DOG5, C$, FILE$                             RT
001540         WRITE #2, USING DOG2, C$                                    RT
001545         WRITE #2, USING DOG6, C$, LIB$                              RT
001550         WRITE #2, USING DOG2, C$                                    RT
001555         WRITE #2, USING DOG7, C$, IVOL$                             RT
001560         WRITE #2, USING DOG2, C$                                    RT
001565         WRITE #2, USING DOG8, C$, STARTPH$                          RT
001570         WRITE #2, USING DOG2, C$                                    RT
001575         WRITE #2, USING DOG9, C$, ENDPH$                            RT
001580         WRITE #2, USING DOG2, C$                                    RT
001585         WRITE #2, USING DOG1, C$                                    RT
001590         RETURN                                                      RT
001595                                                                     RT
001600 HEADER:                                                             RT
001605         IF PAGE%=1 THEN FIRST                                       RT
001610         C$ = HEX(0001)                                              RT
001615         WRITE #2, USING DOG, C$                                     RT
001620 FIRST:  C$ = HEX(8001)                                              RT
001625         WRITE #2, USING DOG, C$                                     RT
001630         C$ = HEX(0001)                                              RT
001635         IF SBTITLE$ = "                        "                  ! RT
001640         THEN WRITE #2, USING CAT,C$,D$,T$,PAGE%                   ! RT
001645         ELSE GOTO POUT                                              RT
001650         GOTO ALRITE                                                 RT
001655 POUT:   WRITE #2, USING CAT1,C$,SBTITLE$,D$,T$,PAGE%                RT
001660         IF SBTITL1$<>"                        "                   ! RT
001665         THEN WRITE #2, USING CAT7,C$,SBTITL1$                       RT
001670 ALRITE: WRITE #2, USING CAT2, C$, FILE$, LIB$, IVOL$                RT
001675         WRITE #2, USING CAT3, C$                                    RT
001680         WRITE #2, USING CAT4, C$                                    RT
001685         WRITE #2, USING CAT5, C$                                    RT
001690         WRITE #2, USING CAT3, C$                                    RT
001695         RETURN                                                      RT
001700                                                                     RT
001705 DOG0:%##          !  ########                                     ! RT
001710     #####   !                                                       RT
001715 DOG: %##                                                            RT
001720 DOG1:%##          !---------------------------------------------- ! RT
001725 -----------!                                                        RT
001730 DOG2:%##          !                                               ! RT
001735             !                                                       RT
001740 DOG3:%##          !          ******    WORD SUBSTITUTION LIST     ! RT
```

```
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Input File is CRES@WSP in Library CRES@SRC on Volume CRES02

001745 *****         !                                                      RT
001750 DOG4:%##           !                TITLE OF LIST:  ###############! RT
001755 ######        !                                                      RT
001760 DOG5:%##           !                INPUT FILE:     ########       ! RT
001765               !                                                      RT
001770 DOG6:%##           !                INPUT LIBRARY:  ########       ! RT
001775               !                                                      RT
001780 DOG7:%##           !                INPUT VOLUME:   ######         ! RT
001785               !                            .                         RT
001790 DOG8:%##           !                STARTING WORD:  ###############! RT
001795 ######        !                                                      RT
001800 DOG9:%##           !                ENDING WORD:    ###############! RT
001805 ######        !                                                      RT
001810 DOG10:%##           !                                ##############! RT
001815 #######        !                                                     RT
001820 CAT:%## ########                          #####                    ! RT
001825              PAGE #####                                              RT
001830 CAT1:%## TITLE OF LIST : ####################      ########        ! RT
001835 #####        PAGE #####                                              RT
001840 CAT7:%##                 ####################                        RT
001845 CAT2:%## Input File is ######## in Library ######## on Volume ###!  RT
001850 ###                                                                  RT
001855 CAT3:%##=========================================================!  RT
001860 ====================                                                 RT
001870 *CAT4:%## WORD                   First                Second         RT
001875 * Part of  Past                                                      RT
001885 *CAT5:&##                        Substitute           Substitute     RT
001890 * Speech   Part.                                                     RT
001900 *CAT6:%## #################### #################### ############## RT
001905 *    #       #                                                       RT
001910 CAT4:%## WORD                   First                Second          RT
001915                                                                      RT
001920 CAT5:%##                        Substitute           Substitute      RT
001925                                                                      RT
001930 CAT6:%## #################### #################### ##############!  RT
001935 #                                                                    RT
001940 CAT8:%##  !!! END OF LISTING !!!                                     RT
001945                                                                      RT
001950 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                   RT
001955 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                   RT
001960 DEF FN'7(MSG$,B$,C$,D$)                                              RT
001965      PRINT                                                           RT
001970      M$=HEX(94)                                                      RT
001975      G$=B$                                                           RT
001980      L$=C$                                                           RT
001985      V$=D$                                                           RT
001990 RETURN                                                               RT
001995                                                                      RT
002000 EXIT: CLOSE #1                                                       RT
002005 OUT:  /* RETURNING TO SUBSTITUTION LIST MENU */                      JM
```

Create/Maintain Phrase Substitute List (CRES@PSL)

CRES@PSL in library CRES@SRC is the BASIC language program to create/maintain the Phrase Substitute List. The object language version is CRES@PSL in library CRES@SAV.

This program first allows the user to specify the Phrase Substitute List to be created or maintained. Then, the program enables the user to add, delete, or modify any given phrase and its substitute(s). Up to two substitutes can be specified of up to 20 characters each.

The only characters accepted in the input phrase or its substitute(s) are the letters A through Z, ".", "-", and "'". There can be no embedded blanks. A complete data record description is provided in appendix A.

There is a protection system implemented for this list, and the program makes provision for clearing the protect bytes, if for some reason the bytes have been left set incorrectly.

A complete program listing follows. Appendix C contains a sample flowchart.

```
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Input File is CRES@PSL in Library CRES@SRC on Volume CRES02

000010 /*  This is the CRES PHRASE SUBSTITUTION MAINTENANCE SUBSYSTEM */  RT
000020 /*                                                           */  RT
000030 /*                 AUTHORS: Rose Tank and John Mears          */  RT
000040 /*                 Date:    October 12, 1983                  */  RT
000050 /*                                                           */  RT
000060                                                                  RT
000070 /* The following code sets up a screen, which asks for the     */  RT
000080 /* name of the file containing the Phrase Sub. list that is    */  RT
000090 /* to be modified.  It also provides the opportunity to change */  RT
000100 /* the library and volume names which are set to the appro-    */  RT
000110 /* priate defaults through the "Extract" system routine.       */  RT
000120                                                                  RT
000130                                                                  RT
000140 DIM WORD$24,ERR1$50,CODE$1,MSG$50,F$40,G$1,PROTECT$3            RT
000150 DIM F1$20,IOBUFF$70,ER1$50,XYZ$1,PASSWRD$13,X$1                  JM
000160 DIM PFK$4,TAB$3,BTAB$7,FILE$8,USER$3,USERNAME$24,WRKST$3        RT
000170 DIM LIB$8,FIL$24,MESING$16                                       JM
000180 DIM IVOL$6,HEADER$50,L$1,V$1,B$1,C$1,D$1,M$1                     JM
000190 DIM MOD$15,SUBONE$20,SUBTWO$20                                   JM
000200 DIM DEF$19,                                                      JM
000210 DIM LEG$5                                                        JM
000220 DIM ENTER$5,NOEXIST$68,Z1$1                                      RT
000230 DIM EX$4                                                         JM
000240 DIM ER$68                                                        JM
000250 DIM ZAP$25                                                       JM
000260 DF=0                                                             JM
000270 ENTER$="ENTER"                                                   RT
000280 TAB$="TAB"                                                       JM
000290 BTAB$="BACKTAB"                                                  JM
000300 SELECT #1,"PHRSUB",VARC,INDEXED,RECSIZE=70,KEYPOS=1,KEYLEN=24,  ! JM
000310              IOERR GOTO IOERR1                                   JM
000320 F1$=HEX(A018A014A014A0030003)                                    JM
000330 F$= "Filename not found on (library/volume)."                    JM
000340 ERR1$= "I/O ERROR - Please check filename and respecify."        JM
000350 CALL "EXTRACT" ADDR("ID",USER$,"IL",LIB$,"IV",IVOL$)             JM
000360 FILE$="PHRSBLST"                                                 JM
000370 AGAIN:  G$=HEX(81)                                               JM
000380         MSG$=" ":L$=HEX(81)                                      JM
000390         V$=HEX(81): M$=HEX(8D)                                   JM
000400 HEADER$         ="CRES PHRASE SUBSTITUTION MAINTENANCE SUBSYSTEM"  JM
000410 FIL$            ="Phrase Substitution List"                      RT
000420 EX$="PF16"                                                       JM
000430                                                                  JM
000440 FILMNU:                                                          JM
000450 ACCEPT                                                         ! JM
000460         AT (01,01),                                            ! JM
000470 "CRES: Phrase Substitution List Maintenance Subsystem",        ! JM
000480         AT (01,57),                                            ! JM
000490 "(File Selection Screen)",                                     ! JM
000500         AT (02,01),                                            ! RT
000510 "===============================================================! RT
000520 ================",                                             ! RT
000530         AT (04,10),                                            ! RT
000540 "Welcome to the",                                              ! RT
000550         AT (04,25), FAC(HEX(85)),                              ! RT
000560 HEADER$,                                                       ! RT
000570         AT (07,04),                                            ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00       13:19 11/09/84   Page      2
Input File is CRES@PSL in Library CRES@SRC on Volume CRES02

000580 "Please specify the",                                                  ! RT
000590        AT (07,23), FAC(HEX(84)),                                       ! RT
000600 FIL$,                                                                  ! RT
000610        AT (07,48),                                                     ! RT
000620 "you want to modify or create,",                                       ! RT
000630        AT (08,04),                                                     ! RT
000640 "if the default values are not satisfactory.  ",                       ! RT
000650        AT (13,30),                                                     ! RT
000660 "File     =",                                                          ! RT
000670        AT (13,43),FAC(G$),FILE$          , CH(08),                     ! RT
000680        RANGE ( "!    "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                     ! RT
000690        AT (14,30),                                                     ! RT
000700 "Library  =",                                                          ! RT
000710        AT (14,43),FAC(L$), LIB$          , CH(08),                     ! RT
000720        RANGE ( "!    "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                     ! RT
000730        AT (15,30),                                                     ! RT
000740 "Volume   =",                                                          ! RT
000750        AT (15,43),FAC(V$), IVOL$         , CH(06),                     ! RT
000760        RANGE ( "!    "        , "¢¢¢¢¢¢¢¢¢¢¢¢"),                     ! RT
000770        AT (18,24), FAC(M$), MSG$,                                      ! RT
000780        AT (20,30),"Press",                                             ! RT
000790        AT (20,36),FAC(HEX(84)),                                        ! RT
000800 ENTER$,                                                                ! RT
000810        AT(20,42),                                                      ! RT
000820 "to continue",                                                         ! RT
000830        AT (21,15),"Press",                                             ! RT
000840        AT (21,21), FAC(HEX(84)),                                       ! RT
000850 EX$  ,                                                                 ! RT
000860        AT (21,26),                                                     ! RT
000870 "to return to the Substitution List Menu",                             ! RT
000880 ON (BIN(16)&BIN(32)) GOTO OUT,OUT                                        RT
000930                                                                          RT
000940 /* SEE IF THE SPECIFIED FILE EXISTS */                                   RT
000950                                                                          RT
000960 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,MSG$)                               RT
000970 IF CODE$="Y" THEN GOTO ZZZ                                               RT
000980 IF CODE$="N" THEN CREATE                                                 RT
000990 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))           RT
001000 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))           RT
001010 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))           RT
001020 GOTO FILMNU                                                              RT
001030                                                                          RT
001040 /* IF WE FALL HERE, IT MUST BE TIME TO OPEN FILE */                      RT
001050 CREATE:                                                                  RT
001060 DIM PF1$          03                                                     RT
001070 PF1$          ="PF1"                                                     RT
001080 ACCEPT                                                                 ! RT
001090        AT(01,01),                                                      ! JM
001100 "CRES: Phrase Substitution List Maintenance Subsystem",                ! JM
001110        AT (01,60),                                                     ! JM
001120 "(Create File Screen)",                                                ! JM
001130        AT (02,01),                                                     ! RT
001140 "==============================================================! RT
001150 ===============",                                                      ! RT
001160        AT (06,08),                                                     ! RT
001170 "The file you have selected does not currently exist in the libra! RT
001180 ry",                                                                   ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00        13:19 11/09/84    Page      3
Input File is CRES@PSL in Library CRES@SRC on Volume CRES02

001190        AT (07,08),                                          ! RT
001200 "and volume specified. For your convenience, the following are ",! JM
001210        AT (08,08),                                          ! RT
001220 "the parameters you submitted.",                            ! RT
001230        AT (11,30),                                          ! RT
001240 "File   =",                                                 ! RT
001250        AT (11,40),FAC(HEX(85)),FILE$        , CH(08),       ! RT
001260        AT (12,30),                                          ! RT
001270 "Library=",                                                 ! RT
001280        AT (12,40), FAC(HEX(85)), LIB$         , CH(08),     ! RT
001290        AT (13,30),                                          ! RT
001300 "Volume =",                                                 ! RT
001310        AT (13,40), FAC(HEX(85)), IVOL$      , CH(06),       ! RT
001320        AT (17,15),                                          ! RT
001330 "To create a new file from these parameters, press",        ! JM
001340        AT (17,65), FAC(HEX(85)),  ENTER$        , CH(05),   ! RT
001350        AT (19,26),                                          ! RT
001360 "To select another file, press",                            ! JM
001370        AT (19,56), FAC(HEX(85)),  PF1$          , CH(03),   ! RT
001380 KEYS(BIN(0)&BIN(1)&BIN(17)),KEY(OPTION),                    ! RT
001390 ON (BIN(1)&BIN(17)) GOTO FILMNU,FILMNU                        RT
001400                                                               RT
001410         OPEN NOGETPARM #1, OUTPUT, FILE= FILE$, LIBRARY=LIB$,   ! JM
001420         VOLUME= IVOL$, SPACE=1000                             JM
001430         IOBUFF$= " PHRASE SUBSTITUTION"                       JM
001440         WRITE #1, IOBUFF$                                     JM
001450         CLOSE #1                                              JM
001460         GOTO ZZ1                                              JM
001470 ZZZ: CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,0%,"RS",RSIZ%,RET%)   JM
001480      IF RSIZ%<>70 THEN ERROW                                  JM
001490 ZZ1: OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,   ! JM
001500      VOLUME = IVOL$                                           RT
001510      READ #1, IOBUFF$                                         JM
001520         IF STR(IOBUFF$,1,20) =" PHRASE SUBSTITUTION" THEN YES   JM
001530         CLOSE #1                                              JM
001540 ERROW:  M$=HEX(94)                                            JM
001550         MSG$= ERR1$                                           JM
001560         GOTO FILMNU                                           JM
001570                                                               RT
001580 YES:                                                          RT
001590 /* This section of code generates another screen, which asks    */ JM
001600 /* for the particular word and its corresponding operation -     */ JM
001610 /* either insert word, delete word, or modify word. The user is */ RT
001620 /* also at this point given the option of selecting another      */ JM
001630 /* phrase sub. list or of returning to the Substitution List     */ JM
001631 /* Menu.                                                         */ JM
001640                                                               RT
001650 ZAP$="Please select the phrase:"                              RT
001660 WORD$=" "                                                     RT
001670 WORDEQ$="phrase = "                                           RT
001680 PFK$=" PF "                                                   RT
001690 OPER$="   Operation"                                          RT
001700 O$="1"                                                        RT
001710 T$="2":TH$="3":Q$="14":R$="15":S$="16"                        RT
001720 ER$ =" "                                                      RT
001730 ER1$=" "                                                      RT
001740 PASSWRD$=HEX(000102030E0F101112131E1F20)                      JM
```

```
Wang VS Integrated Editor - Version  6.10.00       13:19 11/09/84   Page      4
Input File is CRES@PSL in Library CRES@SRC on Volume CRES02

001750 X$=HEX(81)                                                         JM
001760 NOEXIST$="The phrase you are attempting to modify does not exist"! RT
001770          &" in this list."                                         RT
001780 Z1$=HEX(84)                                                        RT
001790                                                                    RT
001800 CWMENU:                                                            RT
001820 ACCEPT                                                           ! RT
001830     AT (01,01),                                                  ! JM
001840    "CRES: Phrase Substitution List Maintenance Subsystem",       ! JM
001850       AT (01,56), "(Phrase & Option Screen)",                    ! JM
001860       AT (02,01), "==============================================! RT
001870 ==================================",                             ! RT
001880        AT (04,11), FAC(HEX(8C)),                                 ! RT
001890 ZAP$,                                                            ! RT
001900        AT (06,27), FAC(HEX (8C)),                                ! RT
001910 WORDEQ$ ,                                                        ! RT
001920        AT (06,36), FAC(X$), WORD$           , CH(24),            ! JM
001930        AT (08,10), FAC(Z1$), ER$,                                ! RT
001940        AT (09,18), FAC(Z1$),ER1$,                                ! RT
001950        AT (11,08),                                               ! JM
001960 "To continue, select the PF key corresponding to the desired oper! JM
001970 ation.",                                                         ! JM
001980        AT (13,30), FAC(HEX(A5)),                                 ! RT
001990 PFK$ ,                                                           ! RT
002000        AT (13,38), FAC(HEX(AC)),                                 ! RT
002010 OPER$,                                                           ! RT
002020        AT (15,31), FAC(HEX(84)),                                 ! RT
002030 O$ ,                                                             ! RT
002040        AT (15,39),                                               ! RT
002050 "INSERT phrase",                                                 ! JM
002060        AT (16,31), FAC(HEX(84)),                                 ! RT
002070 T$ ,                                                             ! RT
002080        AT (16,39),                                               ! RT
002090 "DELETE phrase",                                                 ! JM
002100        AT (17,31), FAC(HEX(84)),                                 ! RT
002110 TH$,                                                             ! RT
002120        AT (17,39),                                               ! RT
002130 "MODIFY phrase",                                                 ! JM
002140        AT (19,31), FAC(HEX(84)),                                 ! RT
002150 Q$,                                                              ! RT
002160        AT (19,39),                                               ! RT
002170 "Protection Override",                                           ! RT
002180        AT (20,31), FAC(HEX(84)),                                 ! RT
002190 R$  ,                                                            ! RT
002200        AT (20,39),                                               ! RT
002210 "Return to Phrase Sub List Selection",                           ! JM
002220        AT (21,31), FAC(HEX(84)),                                 ! RT
002230 S$  ,                                                            ! RT
002240        AT (21,39),                                               ! RT
002250 "Return to Substitution List Menu",                              ! RT
002260 KEYS(PASSWRD$),                                                  ! JM
002270     KEY(OPTION)                                                    JM
002280 IF OPTION=15 OR OPTION=31 THEN NEW                                 JM
002290 IF OPTION=16 OR OPTION=32 THEN EXIT                                JM
002300                                                                    RT
002310 FOR I=1 TO LEN(WORD$)
002320  IF POS("'ABCDEFGHIJKLMNOPQRSTUVWXYZ- "=STR(WORD$,I,1))=0        !
```

```
Wang VS Integrated Editor - Version  6.10.00       13:19 11/09/84   Page      5
Input File is CRES@PSL in Library CRES@SRC on Volume CRESU2

002330                             THEN ILLERR
002340 NEXT I
002350
002360 Z1$= HEX(8D)                                                         RT
002370 ER1$,ER$  =" "                                                       JM
002380 IF (OPTION=0)AND(DF=1) THEN DEL                                      RT
002390 IF DF=1 THEN UPDATE                                                  RT
002400 IF (OPTION=14) OR (OPTION=30) THEN OVERRIDE                          RT
002410 IF STR(WORD$,1,1)<>" " THEN GOTO REED                                RT
002420                                                                      RT
002430 PRINT BELL                                                           RT
002440 ER$="                The first character cannot be blank."
002450 ER1$= "Please reenter the appropriate phrase and PF key."            RT
002460 Z1$= HEX(94)                                                         RT
002470 GOTO CWMENU                                                          RT
002480                                                                      RT
002490 ILLERR:
002500 ER$="Illegal character found in word - please reenter."
002510 Z1$=HEX(94): GOTO CWMENU
002520
002530 OVERRIDE:                                                            RT
002540 IF NF=1 AND P%=1 THEN CHK                                            RT
002550 ER$= "     First check if phrase exists by selecting an option."    RT
002560 Z1$=HEX(84)                                                          RT
002570 GOTO  CWMENU                                                         RT
002580                                                                      RT
002590 CHK:                                                                 RT
002600 IF USER$=PROTECT$ THEN REMOVE                                        RT
002610   ER$= "You don't have the clearance to override the protect."       RT
002620   ER1$=" "                                                           RT
002630   Z1$= HEX(84)                                                       RT
002640 GOTO CWMENU                                                          RT
002650                                                                      RT
002660 REMOVE: PROTECT$= " "  :P%=0                                         RT
002670          READ #1, HOLD, KEY=WORD$,IOBUFF$                            RT
002680          $PACK (F=F1$) IOBUFF$ FROM WORD$, SUBONE$,SUBTWO$,        ! RT
002690             PROTECT$                                                 RT
002700          REWRITE #1, IOBUFF$, DATA GOTO IOERR2                       RT
002710          ER$= "                  You may now select your option."    RT
002720          ER1$=" "                                                    RT
002730          Z1$= HEX(84)                                                RT
002740         GOTO CWMENU                                                  RT
002750                                                                      RT
002760 IOERR1:  PRINT                                                       RT
002770          M$=HEX(94)                                                  RT
002780          MSG$= ERR1$                                                 RT
002790          CLOSE #1                                                    RT
002800          GOTO FILMNU                                                 RT
002810                                                                      RT
002820 IOERR2:  PRINT                                                       RT
002830          PRINT HEX(94),"Error occurred on file "; FILE$              RT
002840          PRINT HEX(94),"Error code = "; FS(#1)                       RT
002850          STOP "Touch ENTER to return to menu."                       RT
002860          GOTO CWMENU                                                 RT
002870                                                                      RT
002880 REED: IF OPTION<>0 THEN SRCH                                         RT
002890 ER$= "                  Command missing."                            RT
```

```
002900 Z1$= HEX(94)                                                         RT
002910 GOTO CWMENU                                                          RT
002920                                                                      RT
002930 SRCH: P%=1                                                           RT
002940       READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,            ! RT
002950              DATA GOTO IOERR2                                        RT
002960                                                                      RT
002970      NF=1                                                            RT
002980                                                                      RT
002990     /* Unpack and check if currently being modified by another */    RT
003000                                                                      RT
003010         $UNPACK (F=F1$) IOBUFF$ TO WORD$,SUBONE$,SUBTWO$,          ! RT
003020                PROTECT$                                              RT
003030         IF PROTECT$= " " THEN NOW                                    RT
003040           CALL "FINDUSER" ADDR(PROTECT$,USERNAME$,WRKST%)            RT
003050           CONVERT WRKST% TO WRKST$, PIC(###)                         RT
003060           Z1$= HEX(94)                                               RT
003070      ER$="            Sorry, "& USERNAME$ &" is currently editing "  RT
003080      ER1$="             '" & WORD$ & "'" & " at workstation "& WRKST$ RT
003090           REWRITE #1, IOBUFF$                                        RT
003100           GOTO CWMENU                                                RT
003110                                                                      RT
003120 NOW:       PROTECT$= USER$                                           RT
003130            $PACK (F=F1$) IOBUFF$ FROM WORD$,SUBONE$,SUBTWO$,       ! RT
003140               PROTECT$                                               RT
003150            REWRITE #1, IOBUFF$, DATA GOTO IOERR2                     RT
003160                                                                      RT
003170      /* NOW BRANCH TO THE OPTION SELECTED */                         RT
003180 OPT:  ON OPTION GOTO INSERT,DELET,MODIFY                             RT
003190       ON OPTION-16 GOTO INSERT,DELET,MODIFY                          RT
003200                                                                      RT
003210 NOTFOUND: NF=0                                                       RT
003220           GOTO OPT                                                   RT
003230                                                                      RT
003240 INSERT:                                                              RT
003250        /* NF=0 indicates the word doesn't yet exist so go ahead */   RT
003260        /* and insert. NF=1 indicates the word exists.           */   RT
003270                                                                      RT
003280         IF NF=1 THEN EXIST                                           RT
003290         MOD$= "(Insert Screen)"                                      RT
003291         MESING$="inserting phrase"                                   JM
003300         SUBONE$,SUBTWO$=" "                                          RT
003310         PROTECT$= USER$                                              RT
003320         $PACK (F=F1$) IOBUFF$ FROM WORD$, SUBONE$,SUBTWO$,         ! RT
003330            PROTECT$                                                  RT
003340         WRITE #1, IOBUFF$, DATA GOTO IOERR2                          RT
003350         GOTO INS                                                     RT
003390                                                                      RT
003400 EXIST:                                                               RT
003410 ER$="      The phrase '" & WORD$ & "' already exists in this list." RT
003420       Z1$= HEX(94)                                                   RT
003430       READ #1, HOLD, KEY= WORD$,IOBUFF$,DATA GOTO IOERR1             RT
003440       PROTECT$=" ":P%=0                                              RT
003450       $PACK (F=F1$) IOBUFF$ FROM WORD$, SUBONE$,SUBTWO$,           ! RT
003460           PROTECT$                                                   RT
003470       REWRITE #1, IOBUFF$, DATA GOTO IOERR2                          RT
003480       GOTO CWMENU                                                    RT
```

```
003490                                                                RT
003500 DELET: IF NF=0 THEN NODEL                                      RT
003510        DF=1                                                    RT
003520        ER$= "          Press ENTER to confirm deletion of "& WORD$ RT
003530        ER1$="      or PF14 to cancel the deletion."            RT
003540        Z1$= HEX(94)                                            RT
003550        PASSWRD$=HEX(000E1E)                                    JM
003560        X$=HEX(84)                                              JM
003570        GOTO CWMENU                                             RT
003580                                                                RT
003590 DEL:   READ #1, HOLD,KEY=WORD$,IOBUFF$                         RT
003600        DELETE #1                                               RT
003610        DF=0                                                    RT
003620    ER$= "   '"&WORD$&"' deleted - Please select your next phrase." RT
003630        ZAP$=" "                                                RT
003631        NF=0                                                    JM
003640        X$=HEX(81)                                              JM
003650        PASSWRD$=HEX(000102030E0F101112131E1F20)                JM
003660        Z1$= HEX(8C)                                            RT
003670        WORD$=" "                                               RT
003680        GOTO CWMENU                                             RT
003690 NODEL:                                                         RT
003700   ER$= "     The phrase '"&WORD$& "' does not exist in this list." RT
003710        Z1$= HEX(94)                                            RT
003720        GOTO CWMENU                                             RT
003730                                                                RT
003740 MODIFY: IF NF=1 THEN GETIT                                     RT
003750         ER$ = NOEXIST$       /* if word not in list,  */       RT
003760         Z1$=HEX(94)          /* set up message and fac and */  RT
003770         GOTO CWMENU          /* go back up to previous screen */ RT
003780                                                                RT
003790 GETIT:/*READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,  */  RT
003800            /*DATA GOTO IOERR2 */                               RT
003810                                                                RT
003820                                                                RT
003830 MOD$           ="(Modify Screen)"                              RT
003831 MESING$="modifying phrase"                                     JM
003840 INS:                                                           RT
003850 DEF$           ="CURRENT SUBSTITUTES"                          JM
003860 LEG$           ="LEGAL ENTRIES"                                RT
003870 ER1$           ="                 "                            RT
003880 XYZ$           =HEX(8C)                                        RT
003890 ERONINS:                                                       RT
003900                                                                RT
003910 ACCEPT                                                       ! RT
003920        AT (01,01),                                           ! RT
003930 "CRES: Phrase Substitution List Maintenance Subsystem",      ! RT
003940        AT (01,66), FAC(HEX(8C)),MOD$,                        ! RT
003950        AT (02,01), "===========================================! RT
003960 ==================================",                         ! RT
003970        AT (05,07),                                           ! RT
003980 "Please enter the appropriate substitutes.",                 ! JM
003990        AT (07,10),FAC(XYZ$),ER1$,                            ! RT
004000        AT (10,33),FAC(HEX(AD)), DEF$ ,                       ! RT
004010        AT (12,07),                                           ! RT
004020 "PHRASE:",                                                   ! RT
004030        AT (12,15),FAC(HEX(84)), WORD$,                       ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00       13:19 11/09/84   Page      8
Input File is CRES@PSL in Library CRES@SRC on Volume CRES02

004040         RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                          ! RT
004050         AT (14,07),                                                        ! RT
004060 "FIRST SUBSTITUTE:",                                                       ! RT
004070         AT (14,32), SUBONE$,CH(20),                                        ! RT
004080         AT (16,07),                                                        ! RT
004090 "SECOND SUBSTITUTE:",                                                      ! RT
004100         AT (16,32), SUBTWO$,CH(20),                                        ! RT
004110         AT (20,17),"Use",FAC(HEX(85)),TAB$,"or",FAC(HEX(85)),              ! RT
004120         BTAB$,"to move between modifiable fields.",                        ! RT
004130         AT (23,30),                                                        ! RT
004140 "Press",                                                                   ! RT
004150         AT (23,36),FAC(HEX(84)),ENTER$,                                    ! RT
004160         AT (23,42),                                                        ! RT
004170 "to continue",                                                             ! RT
004180         AT (24,20),                                                        ! RT
004190 "Press" ,AT(24,26),FAC(HEX(84)),EX$,AT(24,31),                             ! RT
004200 "to exit without ",                                                        ! JM
004201         AT (24,47), FAC(HEX(8C)), MESING$,                                 ! JM
004210 KEYS(BIN(0)&BIN(16)&BIN(32)),KEY(OPTION),                                  ! RT
004220 ON (BIN(16)&BIN(32)) GOTO EXMOD,EXMOD                                        RT
004230                                                                              RT
004240 IF SUBONE$<>" " THEN UPDATE                                                  RT
004250 ER1$="             The First Substitute can not be blank."                   RT
004260 XYZ$= HEX(94)                                                                RT
004270 GOTO ERONINS                                                                 RT
004280                                                                              RT
004290 EXMOD:   IF NF=1 THEN NOCHAN                                                 RT
004300          READ #1, HOLD,KEY=WORD$,IOBUFF$                                     RT
004310          DELETE #1                                                           RT
004320          ER$= "               Phrase '"&WORD$&"' was not inserted."          RT
004330          GOTO CWMENU                                                         RT
004340                                                                              RT
004350 NOCHAN:  READ #1, HOLD, KEY=WORD$, IOBUFF$                                   RT
004360          PROTECT$ = " " :P%=0                                                RT
004370          $PACK (F=F1$) IOBUFF$ FROM WORD$,SUBONE$,SUBTWO$,                 ! RT
004380              PROTECT$                                                        RT
004390          REWRITE #1,IOBUFF$,DATA GOTO IOERR2                                 RT
004400          ER$="                        No changes were saved."                RT
004410          GOTO CWMENU                                                         RT
004420                                                                              RT
004430 UPDATE:  READ #1, HOLD, KEY=WORD$, IOBUFF$                                   RT
004440          PROTECT$ = " " :P%=0                                                RT
004450          $PACK (F=F1$) IOBUFF$ FROM WORD$,SUBONE$,SUBTWO$,                 ! RT
004460            . PROTECT$                                                        RT
004470          REWRITE #1,IOBUFF$,DATA GOTO IOERR2                                 RT
004480          ER1$= " "
004490          IF NF=0 THEN RITE                                                   RT
004500          IF DF=1 THEN EXDEL                                                  RT
004510          ZAP$=" "                                                            RT
004520 ER$="         '"&WORD$&"' updated - Please select next phrase"               JM
004530          Z1$=HEX(8C)                                                         RT
004540          WORD$=" "                                                           RT
004550          GOTO CWMENU                                                         RT
004560 RITE:                                                                        RT
004570 ER$= "    '"&WORD$&"' inserted - Please select your next phrase."            RT
004580          ZAP$=" "                                                            RT
004590          Z1$= HEX(8C)                                                        RT
```

```
Wang VS Integrated Editor - Version  6.10.00       13:19 11/09/84   Page     9
Input File is CRES@PSL in Library CRES@SRC on Volume CRES02

004600          WORD$=" "                                                  RT
004610          GOTO CWMENU                                                RT
004620                                                                     RT
004630 EXDEL: DF=0                                                         RT
004640         ER$= "             Deletion cancelled."                     RT
004641         X$=HEX(81)                                                  JM
004646         PASSWRD$=HEX(000102030E0F101112131E1F20)                    JM
004650         GOTO CWMENU                                                 RT
004660                                                                     RT
004670 NEW: PRINT PAGE, AT(12,28),HEX(84);"Closing last file"              RT
004680      FOR I= 1 TO 50000:NEXT I                                       RT
004690      FILE$=" "
004700      CLOSE #1                                                       RT
004710      GOTO AGAIN                                                     RT
004720                                                                     RT
004730 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                  RT
004740 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                  RT
004750 DEF FN'7(MSG$,B$,C$,D$)                                             RT
004760      PRINT                                                          RT
004770      M$=HEX(94)                                                     RT
004780      G$=B$                                                          RT
004790      L$=C$                                                          RT
004800      V$=D$                                                          RT
004810 RETURN                                                              RT
004820                                                                     RT
004830 EXIT: CLOSE #1                                                      RT
004840 OUT:  /* RETURNING TO SUBSTITUTION LIST MENU */                     JM
```

Print Phrase Substitute List (CRES@PSP)

CRES@PSP in library CRES@SRC is the BASIC language program to print the Phrase Substitute List. The object language version is CRES@PSP in library CRES@SAV.

This program first allows the user to specify the Phrase Substitute List to be printed. Then, the program enables the user to print out either the entire Phrase Substitute List, or some specified portion thereof. This printout can be displayed at the terminal or sent to the printer. An optional subtitle of up to two lines can be included for the printout, and the number of lines per page may be specified as some value less than the default value of 50.

A complete program listing follows. Appendix C contains a sample flowchart.

```
Wang VS Integrated Editor - Version  6.10.00       16:17 11/13/84   Page     1
Input File is CRES@PSP in Library CRES@SRC on Volume CRES02

000010 /*  This is the CRES PHRASE SUBSTITUTION LIST PRINT PROGRAM   */   RT
000020 /*                                                            */   RT
000030 /*               AUTHORS: Rose Tank and John Mears            */   RT
000040 /*               Date:    October 12, 1983                    */   RT
000050 /*                                                            */   RT
000060                                                                    RT
000070 /* The following code sets up a screen, which asks for the    */   RT
000080 /* name of the file containing the phrase substitution list   */   RT
000090 /* to be printed.  It also provides the opportunity to change */   RT
000100 /* the library and volume names which are set to the appro-   */   RT
000110 /* priate defaults through the "Extract" system routine.      */   RT
000120                                                                    RT
000130                                                                    RT
000140 DIM WORD$24,ERR1$53,CODE$1,MSG$53,F$40,G$1,CMSG$255,MSG2$40        RT
000150 DIM IOBUFF$70,EXP$31,ERR2$40,RVOL$06,RLIB$8,SLIB$8,SVOL$6          JM
000160 DIM TAB$3,BTAB$7,WORDEQ$9,FILE$08,LIB$08,FIL$24                    RT
000170 DIM IVOL$06,HEADER$51,L$1,V$1,B$1,C$2,D$8,M$1,MSK$2                RT
000180 DIM SBTITLE$20,SBTITL1$20                                          RT
000190 DIM EN$           05                                               RT
000200 DIM EX$           04                                               RT
000210 DIM ER$           79,MESSG$21                                      RT
000220 DIM STARTPH$      24                                               RT
000230 DIM ENDPH$        24                                               RT
000240 DIM TP$           08                                               RT
000250 DIM PF15$         04                                               RT
000260 DIM PF16$         04                                               RT
000270                                                                    RT
000280 EN$           ="ENTER"                                             JEM
000290 TAB$="TAB"                                                         RT
000300 BTAB$="BACKTAB"                                                    RT
000310 EXP$="(Explanation of Entries Screen)"                             RT
000320 MESSG$="Parts of Speech Codes"                                     RT
000330 F$= "Filename not found on (library/volume)."                      RT
000340 ERR1$= "I/O ERROR - Please specify PHRASE SUBSTITUTION list."      RT
000350 ERR2$="I/O ERROR - Internal format not matched."                   RT
000360 CALL "EXTRACT" ADDR("IL",LIB$,"RV",RVOL$,"RL",RLIB$,"SL",SLIB$,  ! JM
000361      "SV",SVOL$,"IV",IVOL$)                                        JM
000370 FILE$="PHRSBLST"
000390 AGAIN:  G$=HEX(81)                                                 RT
000400         MSG$=" ":L$=HEX(81)                                        RT
000410         V$=HEX(81): M$=HEX(8D)                                     RT
000420 HEADER$     ="CRES PHRASE SUBSTITUTION LIST PRINT SUBSYSTEM"       RT
000430 FIL$    ="Phrase Substitution List"                                RT
000440 EX$="PF16"                                                         RT
000450                                                                    RT
000460 FILMNU:                                                            RT
000470 ACCEPT                                                           ! RT
000480         AT (01,01),                                              ! RT
000490 "CRES: Phrase Substitution List Print Subsystem",                ! RT
000500         AT (01,57),                                              ! RT
000510 "(File Selection Screen)",                                       ! RT
000520         AT (02,01),                                              ! RT
000530 "================================================================! RT
000540 ==============",                                                 ! RT
000550         AT (04,10),                                              ! RT
000560 "Welcome to the",                                                ! RT
000570         AT (04,26), FAC(HEX(85)),                                ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00       16:17 11/13/84   Page     2
Input File is CRES@PSP in Library CRES@SRC on Volume CRES02

000580 HEADER$,                                                          ! RT
000590         AT (07,10),                                               ! JEM
000600 "Please specify the",                                             ! JEM
000610         AT (07,29), FAC(HEX(84)),                                 ! JEM
000620 FIL$,                                                             ! JEM
000630         AT (07,54),                                               ! JEM
000640 "you want to print,",                                             ! RT
000650         AT (08,19),                                               ! JEM
000660 "if the default values are not satisfactory. ",                   ! RT
000710         AT (13,30),                                               ! RT
000720 "File    =",                                                      ! RT
000730         AT (13,43),FAC(G$),FILE$         , CH(08),                ! RT
000740         RANGE ( "!  "          , "££££££££££££"),                 ! RT
000750         AT (14,30),                                               ! RT
000760 "Library =",                                                      ! RT
000770         AT (14,43),FAC(L$), LIB$          , CH(08),               ! RT
000780         RANGE ( "!  "          , "££££££££££££"),                 ! RT
000790         AT (15,30),                                               ! RT
000800 "Volume  =",                                                      ! RT
000810         AT (15,43),FAC(V$), IVOL$         , CH(06),               ! RT
000820         RANGE ( "!  "          , "££££££££££££"),                 ! RT
000830         AT (18,20), FAC(M$), MSG$,                                ! RT
000832         AT (20,30),"Press",                                       ! RT
000834         AT (20,36),FAC(HEX(84)),                                  ! RT
000836 EN$,                                                              ! RT
000838         AT(20,42),                                                ! RT
000840 "to continue",                                                    ! RT
000842         AT (21,18),"Press",                                       ! RT
000844         AT (21,24), FAC(HEX(84)),                                 ! RT
000846 EX$,                                                              ! RT
000848         AT (21,29),                                               ! RT
000870 "to return to the Substitution List Menu",                        ! RT
000880 ON (BIN(16)&BIN(32)) GOTO OUT                                       RT
000890                                                                     RT
000900                                                                     RT
000910 /* SET UP THE USER FILE BLOCK */                                    RT
000920                                                                     RT
000930 SELECT #1,"PHRASE",VARC,INDEXED,RECSIZE=70,KEYPOS=1,KEYLEN=24,    ! RT
000940            IOERR GOTO IOERR1                                        RT
000950                                                                     RT
000960 SELECT #2,"PRTFILE",PRINTER,RECSIZE=80,IOERR GOTO IOERR3            RT
000970                                                                     RT
000980 /* SEE IF THE SPECIFIED FILE EXISTS */                              RT
000990                                                                     RT
001000 CALL "LIMITS"(FILE$,LIB$,IVOL$,CODE$,MSG$)                          RT
001010 IF CODE$="Y" THEN ZZZ                                               RT
001020 IF CODE$="N" THEN GOSUB'7(F$,HEX(91),HEX(81),HEX(81))               RT
001030 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))      RT
001040 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))      RT
001050 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))      RT
001060 GOTO FILMNU                                                         RT
001080                                                                     RT
001090 /* IS THIS REALLY A PHRASE SUBSTITUTION LIST?     */                RT
001100                                                                     RT
001110 ZZZ:                                                                RT
001120 I%=0                                                                RT
001130 CALL "READFDR" ADDR(FILE$,LIB$,IVOL$,I%,"RS",RS%,R%)                RT
```

```
IF RS%<>70 THEN IOERR2                                                RT
                                                                      RT
/* IF WE FALL HERE, IT MUST BE TIME TO OPEN FILE */                   RT
                                                                      RT
     OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,         ! RT
     VOLUME = IVOL$                                                   RT
                                                                      RT
/* This section of code generates the second screen, which asks */ RT
/* for the particular word interval and its corresponding          */ RT
/* print  operation.  The user is given the option of returning */ RT
/* to the previous screen to select a new word file to print,    */ RT
/* or of returning to the substitution list menu.                  */ JM
                                                                      RT
WORDEQ$="phrase = "                                                   RT
                                                                      RT
ER$ =" "                                                              RT
CWMENU:                                                               RT
       WORD$ = " "                                                    RT
       LPP%            =50                                            RT
       PF15$           ="PF15"                                        RT
       PF16$           ="PF16"                                        RT
       SBTITLE$        =" "                                           RT
       SBTITL1$        =" "                                           RT
BALONEY:                                                              RT
       STARTPH$        ="FIRST"                                       RT
       ENDPH$          ="LAST"                                        RT
       TP$             ="TERMINAL"                                    RT
PRINTSCR:                                                             RT
ACCEPT                                                              ! RT
        AT (01,03),                                                 ! RT
"CRES: Phrase Substitution List Print Subsystem",                   ! RT
        AT (01,66),                                                 ! RT
"(Print Screen)",                                                   ! RT
        AT (02,03),                                                 ! RT
"===================================================================! RT
=============",                                                     ! RT
        AT (04,13),                                                 ! RT
"To print a range of lines, fill in the information below.",        ! RT
        AT (06,02), FAC(HEX(85)),                                   ! RT
 ER$,                                                               ! RT
        AT (08,22),                                                 ! RT
"Subtitle of list =",                                               ! RT
        AT (08,42), FAC(HEX(81)),SBTITLE$,CH(20),                   ! RT
        AT (09,42), FAC(HEX(81)),SBTITL1$,CH(20),                   ! RT
        AT (12,22),                                                 ! RT
"Starting phrase  =",                                               ! RT
        AT (12,42),FAC(HEX(81)), STARTPH$, CH(24),                  ! RT
        RANGE ( "!    "      , "éééééééééééé"),                     ! RT
        AT (13,22),                                                 ! RT
"Ending phrase    =",                                               ! RT
        AT (13,42), FAC(HEX(81)), ENDPH$, CH(24),                   ! RT
        RANGE ( "!    "      , "éééééééééééé"),                     ! RT
        AT (14,22),                                                 ! RT
"Lines per page   =",                                               ! RT
        AT (14,42), FAC(HEX(82)), LPP%, PIC(##),                    ! RT
        AT (17,22),                                                 ! RT
"Print at (TERMINAL/PRINTER) =",                                    ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00        16:17 11/13/84   Page      4
Input File is CRES@PSP in Library CRES@SRC on Volume CRES02

001710        AT (17,53), FAC(HEX(81)), TP$, CH(08),                         ! RT
001720        AT (20,32),                                                    ! RT
001730 "Press",                                                              ! RT
001740        AT (20,38), FAC(HEX(85)), EN$, CH(05),                         ! RT
001750        AT (20,44),                                                    ! RT
001760 "to print",                                                           ! RT
001770        AT (21,16),                                                    ! RT
001780 "Press",                                                              ! RT
001790        AT (21,22), FAC(HEX(84)), PF15$, CH(04),                       ! RT
001800        AT (21,27),                                                    ! RT
001810 "to select another Phrase Substitution List",                         ! RT
001820        AT (22,17),                                                    ! RT
001830 "Press",                                                              ! RT
001840        AT (22,23), FAC(HEX(84)), PF16$, CH(04),                       ! RT
001850        AT (22,28),                                                    ! RT
001860 "to return to the Substitution List Menu",                            ! RT
001870 KEYS(BIN(0)&BIN(15)&BIN(16)&BIN(31)&BIN(32)),                         ! RT
001880 ON (BIN(15)&BIN(31)&BIN(16)&BIN(32)) GOTO NEW,NEW,EXIT,EXIT             RT
001890                 IF STR(TP$,1,1) = "P" THEN NEXT11                       RT
001900               ' IF STR(TP$,1,1)<> "T" THEN TERMPR                       RT
001910 NEXT11:         IF LPP%< 51 THEN NEXT13                                 RT
001920                 ER$="'Lines per page' can be at most 50."               RT
001930                 GOTO PRINTSCR                                           RT
001940 IOERR1:  PRINT                                                          RT
001950          PRINT BELL,HEX(94),ERR1$                                       RT
001960          FOR I=1 TO 200000 :NEXT I                                      RT
001970          GOTO FILMNU                                                    RT
001980                                                                         RT
001990 IOERR2:  MSG$=ERR1$                                                     RT
002000          M$= HEX(84)                                                    RT
002010          GOTO FILMNU                                                    RT
002020 IOERR3:  PRINT                                                          RT
002030          PRINT BELL, HEX(94), ERR2$                                     RT
002040          FOR I=1 TO 500000 :NEXT I                                      RT
002050          CLOSE #2                                                       RT
002060          GOTO BALONEY                                                   RT
002070 TERMPR:                                                                 RT
002080 ER$="'Print at ' has only legal values TERMINAL or PRINTER."            RT
002090      GOTO PRINTSCR                                                      RT
002100                                                                         RT
002110 REX: ER$="         'Starting phrase' comes after 'Ending phrase'."      RT
002120      GOTO PRINTSCR                                                      RT
002150                                                                         RT
002160 NEXT13: IF STARTPH$="FIRST" OR ENDPH$="LAST" THEN FORD                  JEM
002170         IF STARTPH$>ENDPH$ THEN REX                                     JEM
002180                                                                         RT
002190 /* Now it's time to generate our print file name */                     RT
002200                                                                         RT
002210 FORD:   DAT$= DATE                                                      JEM
002220         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)           RT
002230         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)                             RT
002240                                                                         RT
002250 DISPLAY                                                               ! RT
002260        AT (01,03),                                                    ! RT
002270 "CRES: Phrase Substitution List Print Subsystem",                     ! RT
002280        AT (01,61),                                                    ! RT
002290 "(Generation Screen)",                                                ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00       16:17 11/13/84   Page      5
Input File is CRES@PSP in Library CRES@SRC on Volume CRES02

002300         AT (02,03),                                              ! RT
002310 "===============================================================! RT
002320 ==============",                                                 ! RT
002330         AT (12,23),                                              ! RT
002340 "Output file now being generated!"                                 RT
002350         PFILE$="PHRSUB##"                                          RT
002360         I%=0                                                       RT
002370 NEXT14: CONVERT I% TO STR(PFILE$,7,2),PIC(00)                      RT
002380         I%=I%+1                                                    RT
002390         CALL "LIMITS" (PFILE$,SLIB$,SVOL$,CODE$,MSG$)              JM
002400         IF CODE$="Y" THEN NEXT14                                   RT
002402         IF CODE$="E" THEN ER$ = STR(MSG$,3)                        JM
002404         IF CODE$="E" THEN PRINTSCR                                 JM
002410         OPEN NOGETPARM #2,OUTPUT,FILE=PFILE$,LIBRARY=SLIB$,      ! JM
002420             VOLUME=SVOL$,SPACE=8000                                JM
002430         GOSUB TTL_PGE                                              RT
002440         IF STARTPH$ = "FIRST" THEN STARTPH$ = ALL(HEX(00))         RT
002450         IF ENDPH$ = "LAST" THEN ENDPH$ = ALL(HEX(FF))              RT
002460         PAGE% = 1                                                  RT
002470         RECS% = 1                                                  RT
002480         READ #1, KEY>=STARTPH$,IOBUFF$                             JEM
002490                                                                    JEM
002500 /* RECORD MAY IDENTIFY THE FILE, SO SEE IF WE SHOULD READ AGAIN */ JEM
002510                                                                    JEM
002520         IF STR(IOBUFF$,1,24)<>" PHRASE SUBSTITUTION" THEN HEAD     JEM
002530         READ #1,IOBUFF$,EOD GOTO HOME                              JEM
002540 HEAD:   GOSUB HEADER                                               JEM
002550         IF STR(IOBUFF$,1,24)>ENDPH$ THEN HOME                      RT
002560         GOTO KNOT                                                  RT
002570 AGAN:   READ #1, IOBUFF$,EOD GOTO HOME                             RT
002580         IF STR(IOBUFF$,1,24)>ENDPH$ THEN HOME                      RT
002590         IF RECS% = 1 THEN GOSUB HEADER                             RT
002600 KNOT:                                                              RT
002610         WRITE #2, USING CAT6,C$,STR(IOBUFF$,1,24),               ! RT
002620         STR(IOBUFF$,25,20),STR(IOBUFF$,45,20)                      RT
002630                                                                    RT
002640         RECS%=RECS%+1                                              RT
002650         IF RECS%>LPP% THEN RECS%=1                                 RT
002660         IF RECS%=1 THEN PAGE%=PAGE%+1                              RT
002670         GOTO AGAN                                                  RT
002680 HOME:   WRITE #2, USING DOG, C$                                    RT
002690         WRITE #2, USING DOG, C$                                    RT
002700         WRITE #2, USING CAT8, C$                                   RT
002710         CLOSE#2                                                    RT
002720         IF STR(TP$,1,1) ="P" THEN MESS                             RT
002730         CLOSE WS                                                   RT
002740         MSG2$ = "CANCEL Processing"                                RT
002750         MSK$=HEX(00)                                               RT
002760         CMSG$ = " "                                                RT
002770        CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,    ! JM
002780          SLIB$,SVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)      JM
002790         ER$ = " "                                                  RT
002800         IF C%<>0 OR R%<>0                                        ! RT
002810         THEN ER$ = STR(CMSG$,141)                                  RT
002820         GOTO CMMENU                                                RT
002830                                                                    RT
002840 MESS: ER$="        File "&PFILE$&" in Library "& SLIB$ &" on "&  ! JM
```

```
Wang VS Integrated Editor - Version  6.10.00       16:17 11/13/84   Page      6
Input File is CRES@PSP in Library CRES@SRC on Volume CRES02

002850  SVOL$ &" generated."                                              JM
002860          GOTO BALONEY                                              RT
002870                                                                    RT
002880 NEW: PRINT PAGE, AT(12,28),HEX(84);"Closing last file"             RT
002890      FOR I= 1 TO 50000 :NEXT I                                     RT
002900      FILE$=" "
002910      CLOSE #1                                                      RT
002920      GOTO AGAIN                                                    RT
002930                                                                    RT
002940 TTL_PGE:                                                           RT
002950         C$=HEX(8001)                                               RT
002960         WRITE #2, USING DOG, C$                                    RT
002970         C$ = HEX(0015)                                             RT
002980         WRITE #2, USING DOG, C$                                    RT
002990         C$ = HEX(0001)                                             RT
003000         WRITE #2, USING DOG1, C$                                   RT
003010         WRITE #2, USING DOG2, C$                                   RT
003020         WRITE #2, USING DOG0, C$,D$,T$                             RT
003030         WRITE #2, USING DOG3, C$                                   RT
003040         WRITE #2, USING DOG2, C$                                   RT
003050         WRITE #2, USING DOG1, C$                                   RT
003060         WRITE #2, USING DOG2, C$                                   RT
003070         IF SBTITLE$ = "                        " THEN GERRY        RT
003080         WRITE #2, USING DOG4, C$, SBTITLE$                         RT
003090         IF SBTITL1$<>"                        " THEN WRITE #2, USING  ! RT
003100 DOG10, C$, SBTITL1$                                                RT
003110         WRITE #2, USING DOG2, C$                                   RT
003120 GERRY: WRITE #2, USING DOG5, C$, FILE$                             RT
003130         WRITE #2, USING DOG2, C$                                   RT
003140         WRITE #2, USING DOG6, C$, LIB$                             RT
003150         WRITE #2, USING DOG2, C$                                   RT
003160         WRITE #2, USING DOG7, C$, IVOL$                            RT
003170         WRITE #2, USING DOG2, C$                                   RT
003180         WRITE #2, USING DOG8, C$, STARTPH$                         RT
003190         WRITE #2, USING DOG2, C$                                   RT
003200         WRITE #2, USING DOG9, C$, ENDPH$                           RT
003210         WRITE #2, USING DOG2, C$                                   RT
003220         WRITE #2, USING DOG1, C$                                   RT
003230         RETURN                                                     RT
003240                                                                    RT
003250 HEADER:                                                            RT
003260         IF PAGE%=1 THEN FIRST                                      RT
003270         C$ = HEX(0001)                                             RT
003280         WRITE #2, USING DOG, C$                                    RT
003290 FIRST: C$ = HEX(8001)                                              RT
003300         WRITE #2, USING DOG, C$                                    RT
003310         C$ = HEX(0001)                                             RT
003320         IF SBTITLE$ = "                          "               ! RT
003330         THEN WRITE #2, USING CAT,C$,D$,T$,PAGE%                  ! RT
003340         ELSE GOTO FOUT                                             RT
003350         GOTO ALRITE                                                RT
003360 FOUT:   WRITE #2, USING CAT1,C$,SBTITLE$,D$,T$,PAGE%               RT
003370         IF SBTITL1$<>"                          "                ! RT
003380         THEN WRITE #2, USING CAT7,C$,SBTITL1$                      RT
003390 ALRITE: WRITE #2, USING CAT2, C$, FILE$, LIB$, IVOL$               RT
003400         WRITE #2, USING CAT3, C$                                   RT
003410         WRITE #2, USING CAT4, C$                                   RT
```

```
Wang VS Integrated Editor - Version  6.10.00       16:17 11/13/84   Page      7
Input File is CRES@PSP in Library CRES@SRC on Volume CRES02

003420                                                                   RT
003430        WRITE #2, USING CAT3, C$                                   RT
003440        RETURN                                                     RT
003450                                                                   RT
003460 DOG0:%###         !   ########                                  ! RT
003470      #####   :                                                    RT
003480 DOG: %###                                                         RT
003490 DOG1:%###         !---------------------------------------------! RT
003500 ------------!                                                     RT
003510 DOG2:%###         !                                             ! RT
003520              !                                                    RT
003530 DOG3:%###         !          ******   PHRASE SUBSTITUTION LIST  ! RT
003540 *****        !                                                    RT
003550 DOG4:%###         !          TITLE OF LIST:   ###################! RT
003560 #            !                                                    RT
003570 DOG5:%###         !          INPUT FILE:      ########          ! RT
003580              !                                                    RT
003590 DOG6:%###         !          INPUT LIBRARY:   ########          ! RT
003600              !                                                    RT
003610 DOG7:%###  '      !          INPUT VOLUME:    ######            ! RT
003620              !                                                    RT
003630 DOG8:%###         !          STARTING PHRASE: ###################! RT
003640 #####        !                                                    RT
003650 DOG9:%###         !          ENDING PHRASE:   ###################! RT
003660 #####        !                                                    RT
003670 DOG10:%###         !                          ##################! RT
003680 ##             !                                                  RT
003690 CAT:%### ########                   #####                       ! RT
003700          PAGE #####                                               RT
003710 CAT1:%### TITLE OF LIST : ####################      ########    ! RT
003720 #####      PAGE #####                                             RT
003730 CAT7:%###             ####################                        RT
003740 CAT2:%### Input File is ######## in Library ######## on Volume ###! RT
003750 ###                        ,                                      RT
003760 CAT3:%###=====================================================! RT
003770 ====================                                              RT
003780 CAT4:%###  PHRASE                       First Substitute       Sec! RT
003790 ond Substitute                                                    RT
003800                                                                   RT
003810 CAT6:%###  #########################    ####################   ###! RT
003820 ###################                                               RT
003830 CAT8:%###  !! END OF LISTING !!                                   RT
003840                                                                   RT
003850 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                RT
003860 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                RT
003870 DEF FN'7(MSG$,B$,C$,D$)                                           RT
003880       PRINT                                                       RT
003890       M$=HEX(94)                                                  RT
003900       G$=B$                                                       RT
003910       L$=C$                                                       RT
003920       V$=D$                                                       RT
003930 RETURN                                                            RT
003940                                                                   RT
003950 EXIT: CLOSE #1                                                    RT
003960 OUT:  /* RETURNING TO SUBSTITUTION LIST MENU */                   JM
```

Print Merged Word and Phrase Substitute List (CRES@SBP)

CRES@SBP in library CRES@SRC is the BASIC language program to print the merged Word Substitute List and Phrase Substitute List. The object language version is CRES@SBP in library CRES@SAV.

This program first allows the user to specify the Word and Phrase Substitute Lists to be printed. Then the program enables the user to print out either the entire merged Substitute List or a specified portion. This printout can be displayed at the terminal or sent to the printer. An optional subtitle of up to two lines can be included for the printout, and the number of lines per page may be specified as some value less than the default value of 50.

A complete program listing follows. Appendix C contains a sample flowchart.

```
Wang VS Integrated Editor - Version  6.10.00      16:20 11/13/84   Page      1
Input File is CRES@SBP in Library CRES@SRC on Volume CRES02

000010 /*  This is the CRES WORD & PHRASE SUBSTITUTION PRINT PROGRAM  */  RT
000020 /*                                                             */  RT
000030 /*               AUTHORS: Rose Tank and John Mears             */  RT
000040 /*               Date:    October 12, 1983                     */  RT
000050 /*                                                             */  RT
000060                                                                    RT
000070 /* The following code sets up a screen, which asks for the     */  RT
000080 /* names of the files containing the word and phrase sub-      */  JM
000081 /* stitution lists to be printed.  The screen also provides    */  JM
000090 /* the opportunity to change the library and volume names      */  JM
000100 /* which are set to the appropriate defaults through the       */  JM
000110 /* "Extract" system routine.                                   */  JM
000120                                                                    RT
000130                                                                    RT
000140 DIM WORD$24,ERR1$53,CODE$1,MSG$54,F$40,CMSG$255,MSG2$40            JM
000150 DIM IOBUFFP$70,IOBUFFW$80,ERR2$54,OPEN%(2),FIL$34                  JM
000160 DIM HEADER$40,L1$1,V1$1,G1$1,L2$1,V2$1,G2$1,B$1,C$2,D$8,M$1,MSK$2  RT
000170 DIM SBTITLE$20,SBTITL1$20,SLIB$8,SVOL$6,RLIB$8,RVOL$6              JM
000180 DIM ER$           79                                               RT
000190 DIM STARTPH$      24                                               RT
000200 DIM ENDPH$        24                                               RT
000210 DIM TP$           08                                               RT
000220 DIM PF15$         04                                               RT
000230 DIM PF16$         04                                               RT
000240                                                                    RT
000250 F$= "Filename not found on (library/volume)."                      RT
000260 ERR1$= "I/O ERROR - Please specify a WORD SUBSTITUTION list."      RT
000270 ERR2$= "I/O ERROR - Please specify a PHRASE SUBSTITUTION list."    RT
000280 ERR3$="I/O ERROR - Internal format not matched."                   RT
000290 AGAIN:  G1$, G2$=HEX(81)                                           RT
000300         MSG$=" ":L1$, L2$=HEX(81)                                  RT
000310         V1$,V2$=HEX(81): M$=HEX(8D)                                RT
000320                                                                    RT
000330 DIM TYPE1$        22                                               RT
000340 DIM TYPE2$        24                                               RT
000350 DIM WFILE$        08                                               RT
000360 DIM PFILE$        08                                               RT
000370 DIM WLIB$         08                                               RT
000380 DIM PLIB$         08                                               RT
000390 DIM WVOL$         06                                               RT
000400 DIM PVOL$         06                                               RT
000410 DIM ENTER$        05                                               RT
000420 HEADER$         ="CRES SUBSTITUTION LISTS PRINT SUBSYSTEM"         RT
000430 FIL$            ="Word and Phrase Substitution Lists"              RT
000440 TYPE1$          ="WORD SUBSTITUTION LIST"                          RT
000450 TYPE2$          ="PHRASE SUBSTITUTION LIST"                        RT
000460 PFILE$ = "PHRSBLST"                                                RT
000461 WFILE$ = "WRDSBLST"
000470 CALL "EXTRACT" ADDR("IL",WLIB$,"IL",PLIB$,"IV",WVOL$,"IV",PVOL$, ! JM
000480       "SL",SLIB$,"SV",SVOL$,"RL",RLIB$,"RV",RVOL$)                 JM
000490 ENTER$          ="ENTER"                                           RT
000500 PF16$           ="PF16"                                            RT
000510 FILMNU:                                                            RT
000520 ACCEPT                                                           ! RT
000530         AT (01,03),                                              ! RT
000540 "CRES: Merge Substitution Lists Print Subsystem        (File Sele! RT
000550 ction Screen)",                                                  ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00       16:20 11/13/84    Page      2
Input File is CRES@SBP in Library CRES@SRC on Volume CRES02

000560       AT (02,03),                                              ! RT
000570 "==============================================================! RT
000580 =============",                                                ! RT
000590       AT (04,11),                                              ! RT
000600 "Welcome to the",                                              ! RT
000610       AT (04,27), FAC(HEX(85)),HEADER$      , CH(39),          ! RT
000620       AT (07,12),                                              ! RT
000630 "Please specify the",                                          ! RT
000640       AT (07,31), FAC(HEX(84)),FIL$         , CH(34),          ! RT
000650       AT (08,26),                                              ! RT
000660 "you want to jointly print. ",                                 ! RT
000670       AT (12,07), FAC(HEX(85)), TYPE1$       , CH(22),         ! RT
000680       AT (12,52), FAC(HEX(85)), TYPE2$       , CH(24),         ! RT
000690       AT (14,09),                                              ! RT
000700 "File    =",                                                   ! RT
000710       AT (14,19), FAC(G1$),       WFILE$       , CH(08),       ! RT
000720       RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
000730       AT (14,55),                                              ! RT
000740 "File     =",                                                  ! RT
000750       AT'(14,66), FAC(G2$),         PFILE$       , CH(08),     ! RT
000760       RANGE ( "!    "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                 ! RT
000770       AT (15,09),                                              ! RT
000780 "Library =",                                                   ! RT
000790       AT (15,19), FAC(L1$),           WLIB$         , CH(08),  ! RT
000800       AT (15,55),                                              ! RT
000810 "Library  =",                                                  ! RT
000820       AT (15,66), FAC(L2$),            PLIB$         , CH(08), ! RT
000830       AT (16,09),                                              ! RT
000840 "Volume  =",                                                   ! RT
000850       AT (16,19), FAC(V1$),         WVOL$          , CH(06),   ! RT
000860       AT (16,55),                                              ! RT
000870 "Volume   =",                                                  ! RT
000880       AT (16,66), FAC(V2$),          PVOL$          , CH(06),  ! RT
000890       AT (18,20), FAC(M$), MSG$,                               ! RT
000900       AT (21,30),                                              ! RT
000910 "Press",                                                       ! RT
000920       AT (21,36), FAC(HEX(85)),        ENTER$         , CH(05),! RT
000930       AT (21,42),                                              ! RT
000940 "to continue",                                                 ! RT
000950       AT (22,18),                                              ! RT
000960 "Press",                                                       ! RT
000970       AT (22,24), FAC(HEX(84)),        PF16$          , CH(04),! RT
000980       AT (22,29),                                              ! RT
000990 "to return to the Substitution Menu",                          ! RT
001000 KEYS(BIN(0)&BIN(16)&BIN(32)),                                  !
001010 ON (BIN(16)&BIN(32)) GOTO OUT                                    RT
001020                                                                  RT
001030        G1$, G2$=HEX(81)                                          JM
001040        L1$, L2$=HEX(81)                                          JM
001050        V1$, V2$=HEX(81)                                          JM
001060                                                                  RT
001070 /* SET UP THE USER FILE BLOCK */                                 RT
001080                                                                  RT
001090 SELECT #1,"WRDSUB",VARC,INDEXED,RECSIZE=80,KEYPOS=1,KEYLEN=20, ! RT
001100           IOERR GOTO IOERR1                                      RT
001110                                                                  RT
001120 SELECT #2,"PHRASE",VARC,INDEXED,RECSIZE=70,KEYPOS=1,KEYLEN=24, ! RT
```

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```
Wang VS Integrated Editor - Version  6.10.00       16:20 11/13/84   Page     3
Input File is CRES@SBP in Library CRES@SRC on Volume CRES02

001130           IOERR GOTO IOERR1                                           RT
001140                                                                       RT
001150 SELECT #3,"PRTFILE",PRINTER,RECSIZE=80,IOERR GOTO IOERR3              RT
001160                                                                       RT
001170 /* SEE IF THE SPECIFIED FILES EXISTS */                               JM
001180                                                                       RT
001190 CALL "LIMITS"(WFILE$,WLIB$,WVOL$,CODE$,MSG$)                          RT
001200 IF CODE$="Y" THEN CKFILE2                                             RT
001210 IF CODE$="N" THEN GOSUB'7(F$,HEX(91),HEX(81),HEX(81))                 RT
001220 IF CODE$="V" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(91))        RT
001230 IF CODE$="L" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(91),HEX(81))        RT
001240 IF CODE$="E" THEN GOSUB'7(STR(MSG$,3),HEX(81),HEX(81),HEX(81))        RT
001250 GOTO FILMNU                                                           RT
001260 CKFILE2:                                                              RT
001270 CALL "LIMITS"(PFILE$,PLIB$,PVOL$,CODE$,MSG$)                          RT
001280 IF CODE$="Y" THEN ZZZ                                                 RT
001290 IF CODE$="N" THEN GOSUB'8(F$,HEX(91),HEX(81),HEX(81))                 RT
001300 IF CODE$="V" THEN GOSUB'8(STR(MSG$,3),HEX(81),HEX(81),HEX(91))        RT
001310 IF CODE$="L" THEN GOSUB'8(STR(MSG$,3),HEX(81),HEX(91),HEX(81))        RT
001320 IF CODE$="E" THEN GOSUB'8(STR(MSG$,3),HEX(81),HEX(81),HEX(81))        RT
001330 GOTO FILMNU                                                           RT
001340                                                                       RT
001350 /* ARE THESE REALLY WORD & PHRASE SUBSTITUTION LISTS? */              JM
001360                                                                       RT
001370 ZZZ:                                                                  RT
001380 I%=0                                                                  RT
001390 CALL "READFDR" ADDR(WFILE$,WLIB$,WVOL$,I%,"RS",RS%,R%)                RT
001400 IF RS%<>80 THEN IOERR1                                                RT
001410                                                                       RT
001420 CALL "READFDR" ADDR(PFILE$,PLIB$,PVOL$,I%,"RS",RS%,R%)                RT
001430 IF RS%<>70 THEN IOERR2                                                RT
001440                                                                       RT
001450 /* IF WE FALL HERE, IT MUST BE TIME TO OPEN FILES */                  JM
001460                                                                       RT
001470       IF OPEN%(1)=1 THEN CLOSE #1                                     RT
001480       OPEN NOGETPARM #1,SHARED, FILE= WFILE$, LIBRARY = WLIB$,      ! RT
001490       VOLUME = WVOL$                                                  RT
001500       OPEN%(1)=1                                                      RT
001510                                                                       RT
001520       IF OPEN%(2)=1 THEN CLOSE #2                                     RT
001530       OPEN NOGETPARM #2,SHARED, FILE= PFILE$, LIBRARY = PLIB$,      ! RT
001540       VOLUME = PVOL$                                                  RT
001550       OPEN%(2)=1                                                      RT
001560                                                                       RT
001570 /* This section of code generates the second screen, which asks */ RT
001580 /* for the particular word interval and its corresponding         */ RT
001590 /* print  operation.  The user is given the option of returning */ RT
001600 /* to the previous screen to select new substitution files to    */ JM
001610 /* print, or of returning to the substitution list menu.          */ JM
001620                                                                       RT
001630                                                                       RT
001640 ER$ =" "                                                              RT
001650 CWMENU:                                                               RT
001660        WORD$ = " "                                                    RT
001670        LPP%           =50                                             RT
001680        PF15$          ="PF15"                                         RT
001690        SBTITLE$       =" "                                            RT
```

```
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Input File is CRES@SBP in Library CRES@SRC on Volume CRES02

001700       SBTITL1$       =" "                                                  RT
001710 BALONEY:                                                                   RT
001720       WF,PF,W=0                                                            RT
001730       STARTPH$       ="FIRST"                                              RT
001740       ENDPH$         ="LAST"                                               RT
001750       TP$            ="TERMINAL"                                           RT
001760 PRINTSCR:                                                                  RT
001770 ACCEPT                                                                   ! RT
001780        AT (01,03),                                                       ! RT
001790 "CRES: Merge Substitution Lists Print Subsystem",                        ! RT
001800        AT (01,66),                                                       ! RT
001810 "(Print Screen)",                                                        ! RT
001820        AT (02,03),                                                       ! RT
001830 "=================================================================! RT
001840 =============",                                                          ! RT
001850        AT (04,13),                                                       ! RT
001860 "To print a range of lines, fill in the information below.",             ! RT
001870        AT (06,02), FAC(HEX(85)),                                         ! RT
001880  ER$,                                                                    ! RT
001890        AT /(08,20),                                                      ! JM
001900 "Subtitle of list        =",                                             ! RT
001910        AT (08,46), FAC(HEX(81)),SBTITLE$,CH(20),                         ! JM
001920        AT (09,46), FAC(HEX(81)),SBTITL1$,CH(20),                         ! JM
001930        AT (12,20),                                                       ! JM
001940 "Starting word or phrase =",                                             ! RT
001950        AT (12,46),FAC(HEX(81)), STARTPH$, CH(24),                        ! JM
001960        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                       ! RT
001970        AT (13,20),                                                       ! JM
001980 "Ending word or phrase   =",                                             ! RT
001990        AT (13,46), FAC(HEX(81)), ENDPH$, CH(24),                         ! JM
002000        RANGE ( "!     "       , "¢¢¢¢¢¢¢¢¢¢¢¢"),                       ! RT
002010        AT (14,20),                                                       ! JM
002020 "Lines per page          =",                                             ! RT
002030        AT (14,46), FAC(HEX(82)), LPP%, PIC(##),                          ! JM
002040        AT (16,20),                                                       ! JM
002050 "Print at (TERMINAL/PRINTER) =",                                         ! RT
002060        AT (16,51), FAC(HEX(81)), TP$, CH(08),                            ! JM
002070        AT (21,32),                                                       ! JM
002080 "Press",                                                                 ! RT
002090        AT (21,38), FAC(HEX(85)), ENTER$,  CH(05),                        ! JM
002100        AT (21,44),                                                       ! JM
002110 "to print",                                                              ! RT
002120        AT (22,17),                                                       ! JM
002130 "Press",                                                                 ! RT
002140        AT (22,23), FAC(HEX(84)), PF15$, CH(04),                          ! JM
002150        AT (22,28),                                                       ! JM
002160 "to select two more Substitution Lists",                                 ! RT
002170        AT (23,16),                                                       ! JM
002180 "Press",                                                                 ! RT
002190        AT (23,22), FAC(HEX(84)), PF16$, CH(04),                          ! JM
002200        AT (23,27),                                                       ! JM
002210 "to return to the Substitution List Menu",                               ! RT
002220 KEYS(BIN(0)&BIN(15)&BIN(16)&BIN(31)&BIN(32)),                            ! RT
002230 ON (BIN(15)&BIN(31)&BIN(16)&BIN(32)) GOTO NEW,NEW,EXIT,EXIT                RT
002240 ER$=" "                                                                    RT
002250              IF STR(TP$,1,1) = "P" THEN NEXT11                             RT
002260              IF STR(TP$,1,1) <> "T" THEN TERMPR                            RT
```

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```
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Input File is CRES@SBP in Library CRES@SRC on Volume CRES02

002270 NEXT11:       IF LPP% < 51 THEN NEXT13                                 RT
002280               ER$="'Lines per page' can be at most 50."                RT
002290               GOTO PRINTSCR                                            RT
002300                                                                        RT
002310 IOERR1:  MSG$=ERR1$                                                    RT
002320          M$= HEX(84)                                                   RT
002330          GOTO FILMNU                                                   RT
002370                                                                        RT
002380 IOERR2:  MSG$=ERR2$                                                    RT
002390          M$= HEX(84)                                                   RT
002400          GOTO FILMNU                                                   RT
002410                                                                        RT
002420 IOERR3:  PRINT                                                         RT
002430          PRINT BELL, HEX(94), ERR3$                                    RT
002440          FOR I=1 TO 500000 :NEXT I                                     RT
002450          CLOSE #3                                                      RT
002460          GOTO BALONEY                                                  RT
002470 TERMPR:                                                                RT
002480 ER$="'Print at ' has only legal values TERMINAL or PRINTER."           RT
002490      GOTO PRINTSCR                                                     RT
002500                                                                        RT
002510 REX: ER$="          'Starting word' comes after 'Ending word'."        RT
002520      GOTO PRINTSCR                                                     RT
002540                                                                        RT
002550 NEXT13: IF STARTPH$="FIRST" OR ENDPH$="LAST" THEN FORD                 JM
002560         IF STARTPH$>ENDPH$ THEN REX                                    JM
002570                                                                        RT
002580 /* Now it's time to generate our print file name */                    RT
002590                                                                        RT
002600 FORD:   DAT$= DATE                                                     JM
002610         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)          RT
002620         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)                            RT
002630                                                                        RT
002640 DISPLAY                                                              ! RT
002650        AT (01,03),                                                   ! RT
002660 "CRES: Merge Substitution List Print Subsystem",                     ! RT
002670        AT (01,61),                                                   ! RT
002680 "(Generation Screen)",                                               ! RT
002690        AT (02,03),                                                   ! RT
002700 "============================================================! RT
002710 =============",                                                      ! RT
002720         AT (12,23),                                                  ! RT
002730 "Output file now being generated!"                                     RT
002740         PFIL$="MERSUB##"                                               RT
002750         I%=0                                                           JM
002760 NEXT14: CONVERT I% TO STR(PFIL$,7,2),PIC(00)                           RT
002770         I%=I%+1                                                        RT
002780         CALL "LIMITS" (PFIL$,SLIB$,SVOL$,CODE$,MSG$)                   JM
002790         IF CODE$="Y" THEN NEXT14                                       RT
002800         IF CODE$="E" THEN ER$ = STR(MSG$,3)
002810         IF CODE$="E" THEN PRINTSCR
002820         OPEN NOGETPARM #3,OUTPUT,FILE=PFIL$,LIBRARY=SLIB$,         ! JM
002830              VOLUME=SVOL$,SPACE=8000                                   JM
002840         GOSUB TTL_PGE                                                  RT
002850         IF STARTPH$ = "FIRST" THEN STARTPH$ = " ZZZ"                   RT
002860         IF ENDPH$ = "LAST" THEN ENDPH$ = ALL(HEX(FF))                  RT
002870         PAGE% = 1                                                      RT
```

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```
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Input File is CRES@SBP in Library CRES@SRC on Volume CRES02

002880           RECS% = 1                                                  RT
002890           READ #1, KEY>=STARTPH$,IOBUFFW$                            RT
002900           READ #2, KEY>=STARTPH$,IOBUFFP$                            RT
002910           IF STR(IOBUFFW$,,20)<STR(IOBUFFP$,,20) THEN W=1 ELSE W=0   RT
002920           GOSUB HEADER                                               RT
002930       IF (STR(IOBUFFW$,,20)>STR(ENDPH$,,20)) AND                   ! RT
002940           (STR(IOBUFFP$,,24)>STR(ENDPH$,,24)) THEN HOME              RT
002950                                                                      RT
002960 KNOT:                                                                RT
002970         IF W=1 THEN                                                ! RT
002980         WRITE #3, USING WDIMG5,C$,STR(IOBUFFW$,1,20),              ! RT
002990         STR(IOBUFFW$,21,20),STR(IOBUFFW$,41,15)                    ! RT
003000                 ELSE                                               ! RT
003010         WRITE #3, USING WDIMG6,C$,STR(IOBUFFP$,1,24),              ! RT
003020         STR(IOBUFFP$,25,20),STR(IOBUFFP$,45,15)                      RT
003030           RECS%=RECS%+1                                              RT
003040           IF RECS%>LPP% THEN RECS%=1                                 RT
003050           IF RECS%=1 THEN PAGE%=PAGE%+1                              RT
003060           IF WF<>1 AND W=1  THEN READ #1, IOBUFFW$,EOD GOTO FINW     RT
003070           IF PF<>1 AND W=0  THEN READ #2, IOBUFFP$,EOD GOTO FINP     RT
003090           IF STR(IOBUFFW$,,20)>ENDPH$ THEN WF=1                      RT
003100           IF STR(IOBUFFP$,,24)>ENDPH$ THEN PF=1                      RT
003110           IF WF=1 AND PF=1 THEN HOME                                 RT
003120           IF STR(IOBUFFW$,,20)<STR(IOBUFFP$,,20) THEN W=1 ELSE W=0   RT
003130           IF RECS% = 1 THEN GOSUB HEADER                             RT
003140           GOTO KNOT                                                  RT
003150 HOME:     WRITE #3, USING DOG, HEX(0002)                             RT
003170           WRITE #3, USING WDIMG8, C$                                 RT
003180           CLOSE#3                                                    RT
003190           IF STR(TP$,1,1) ="P" THEN MESS                             RT
003200           CLOSE WS                                                   RT
003210           MSG2$ = "CANCEL Processing"                                RT
003220           MSK$=HEX(00)                                               RT
003230           CMSG$ = " "                                                RT
003240 CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFIL$, SLIB$,       ! JM
003250                 SVOL$, "C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)      JM
003260           ER$ = " "                                                  RT
003270           IF C%<>0 OR R%<>0                                        ! RT
003280           THEN ER$ = STR(CMSG$,141)                                  RT
003290           GOTO CWMENU                                                RT
003300                                                                      RT
003310 MESS: ER$="         File "&PFIL$ &" in Library "& SLIB$ &" on "&   ! JM
003320   SVOL$ &" generated."                                               JM
003330           GOTO BALONEY                                               RT
003340                                                                      RT
003350 NEW: PRINT PAGE, AT(12,28),HEX(84);"Closing last file"               RT
003360       WF,PF,W =0                                                     RT
003370       FOR I= 1 TO 50000 :NEXT I                                      RT
003380       CLOSE #1:CLOSE #2 : OPEN%(1),OPEN%(2)=0                        RT
003390       GOTO AGAIN                                                     RT
003400                                                                      RT
003410 TTL_PGE:                                                             RT
003420          C$=HEX(8001)                                                RT
003430          WRITE #3, USING DOG, C$                                     RT
003440          C$ = HEX(0015)                                              RT
003450          WRITE #3, USING DOG, C$                                     RT
003460          C$ = HEX(0001)                                              RT
```

```
003470        WRITE #3, USING DOG1, C$                                     RT
003480        WRITE #3, USING DOG2, C$                                     RT
003490        WRITE #3, USING DOG0, C$,D$,T$                               RT
003500        WRITE #3, USING DOG3, C$                                     RT
003510        WRITE #3, USING DOG2, C$                                     RT
003520        WRITE #3, USING DOG1, C$                                     RT
003530        WRITE #3, USING DOG2, C$                                     RT
003540        IF SBTITLE$ = "                    " THEN GERRY              RT
003550        WRITE #3, USING DOG4, C$, SBTITLE$                           RT
003560        IF SBTITL1$<>"                   " THEN WRITE #3, USING  !   RT
003570 DOG10, C$, SBTITL1$                                                 RT
003580        WRITE #3, USING DOG2, C$                                     RT
003590 GERRY: WRITE #3, USING DOG5, C$,WFILE$,PFILE$                       RT
003600        WRITE #3, USING DOG2, C$                                     RT
003610        WRITE #3, USING DOG6, C$,WLIB$,PLIB$                         RT
003620        WRITE #3, USING DOG2, C$                                     RT
003630        WRITE #3, USING DOG7, C$,WVOL$,PVOL$                         RT
003640        WRITE #3, USING DOG2, C$                                     RT
003650        WRITE #3, USING DOG8, C$, STARTPH$                           RT
003660        WRITE #3, USING DOG2, C$                                     RT
003670        WRITE #3, USING DOG9, C$, ENDPH$                             RT
003680        WRITE #3, USING DOG2, C$                                     RT
003690        WRITE #3, USING DOG1, C$                                     RT
003700        RETURN                                                       RT
003710                                                                     RT
003720 HEADER:                                                             RT
003730        IF PAGE%=1 THEN FIRST                                        RT
003740        C$ = HEX(0001)                                               RT
003750        WRITE #3, USING DOG, C$                                      RT
003760 FIRST: C$ = HEX(8001)                                               RT
003770        WRITE #3, USING DOG, C$                                      RT
003780        C$ = HEX(0001)                                               RT
003790        IF SBTITLE$ = "                    "                     !   RT
003800        THEN WRITE #3, USING WDIMG,C$,D$,T$,PAGE%                !   RT
003810        ELSE GOTO FOUT                                               RT
003820        GOTO ALRITE                                                  RT
003830 FOUT:  WRITE #3, USING WDIMG1,C$,SBTITLE$,D$,T$,PAGE%               RT
003840        IF SBTITL1$<>"                   "                       !   RT
003850        THEN WRITE #3, USING WDIMG7,C$,SBTITL1$                      RT
003860 ALRITE:WRITE #3, USING WDIMG2, C$,WFILE$,WLIB$, WVOL$               RT
003870        WRITE #3, USING WDIMG9, C$,PFILE$,PLIB$, PVOL$               RT
003880        WRITE #3, USING WDIMG3, C$                                   RT
003890        WRITE #3, USING WDIMG4, C$                                   RT
003910        WRITE #3, USING WDIMG3, C$                                   RT
003920        RETURN                                                       RT
003930                                                                     RT
003940 DOG0:%##           !   ########                                 !   RT
003950     #####    !                                                      RT
003960 DOG: %##                                                            RT
003970 DOG1:%##           !-------------------------------------------!   RT
003980 ------------!                                                       RT
003990 DOG2:%##           !                                            !   RT
004000              !                                                      RT
004010 DOG3:%##           !          ******   MERGE SUBSTITUTION LISTS  !   RT
004020 *****        !                                                      RT
004030 DOG4:%##           !                TITLE OF LIST:  ##############!   RT
004040 ######       !                                                      RT
```

```
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Input File is CRES@SBP in Library CRES@SRC on Volume CRES02

004050 DOG5:%##           !  WORD FILE   : ########      PHRASE FILE   : ! RT
004060 ########     !                                                      RT
004070 DOG6:%##           !       LIBRARY:  ########            LIBRARY: ! RT
004080 ########     !                                                      RT
004090 DOG7:%##           !       VOLUME :  ######              VOLUME : ! RT
004100 ######       !                                                      RT
004110 DOG8:%##           !               STARTING WORD:   ##############! RT
004120 ##########   !                                                      RT
004130 DOG9:%##           !               ENDING WORD  :   ##############! RT
004140 ##########   !                                                      RT
004150 DOG10:%##           !                                #############! RT
004160 #######       !                                                     RT
004170 WDIMG:%## ########                          #####                 : RT
004180             PAGE #####                                              RT
004190 WDIMG1:%## TITLE OF LIST : ####################       ########    : RT
004200   #####       PAGE #####                                            RT
004210 WDIMG7:%##                 ####################                     RT
004220 WDIMG2:%##   WORD File is ######## in Library ######## on Volume #! RT
004230 #####                                                               RT
004240 WDIMG9:%##   PHRASE File is ######## in Library ######## on Volume! RT
004250  ######                                                             RT
004260 WDIMG3:%##========================================================! RT
004270 ======================                                              RT
004280 WDIMG4:%##  Word or Phrase              First Substitute         S! RT
004290 econd Substitute                                                    RT
004300 WDIMG5:%##  ####################        ####################     #! RT
004310 #############                                                       RT
004320 WDIMG6:%##  ########################    ####################     #! RT
004330 ####################                                                RT
004340 WDIMG8:%##  !!! END OF LISTING !!!                                  RT
004350                                                                     RT
004360 FINW: IF PF=1 THEN HOME                                             RT
004370      WF=1: IOBUFFW$="ZZZ"                                           RT
004380      GOTO 3070                                                      RT
004390                                                                     RT
004400 FINP: IF WF=1 THEN HOME                                             RT
004410      PF=1:IOBUFFP$="ZZZ"                                            RT
004420      GOTO 3090                                                      RT
004430                                                                     RT
004440 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                  RT
004450 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                  RT
004460 DEF FN'7(MSG$,B$,C$,D$)                                             RT
004470      PRINT                                                          RT
004480      M$=HEX(94):G2$,L2$,V2$=HEX(81)                                 RT
004490      G1$=B$                                                         RT
004500      L1$=C$                                                         RT
004510      V1$=D$                                                         RT
004520 RETURN                                                              RT
004530                                                                     RT
004540 DEF FN'8(MSG$,B$,C$,D$)                                             RT
004550      PRINT                                                          RT
004560      M$=HEX(94):G1$,L1$,V1$=HEX(81)                                 RT
004570      G2$=B$                                                         RT
004580      L2$=C$                                                         RT
004590      V2$=D$                                                         RT
004600 RETURN                                                              RT
004610 EXIT: CLOSE #1                                                      RT
```

```
Wang VS Integrated Editor - Version  6.10.00       16:20 11/13/84   Page     9
Input File is CRES@SBP in Library CRES@SRC on Volume CRES02

004620 OUT:  /* RETURNING TO SUBSTITUTION LIST MENU */                     JM
```

GLOSSARY SUBSYSTEM

Create/Maintain Glossary Menu (CRES@BCG)

CRES@BCG in library CRES@PRC is the Procedure Language menu routine that serves as the driver for the Create/Maintain Glossary Subsystem. It enables the user to select by PF key among options to create/maintain the Abbreviation-Acronym Glossary or the Technical Glossary, to print the Abbreviation-Acronym Glossary or the Technical Glossary, or to return to the CRES Master Menu.

A complete listing follows.

```
Wang VS Integrated Editor - Version  6.10.00       14:44 11/15/84   Page      1
Input File is CRES@BCG in Library CRES@PRC on Volume CRES01

*
     PROCEDURE   CRES ABBREVIATION/ACRONYM GLOSSARY MAINTENANCE MENU    JM
*    AUTHOR      ROSE TANK                                              JM
*    DATE        10/06/83                                               JM
*
*    Abstract: This procedure is the CRES ABBREVIATION/ACRONYM          JM
*              GLOSSARY MAINTENANCE MENU.  It allows the user           JM
*              to select and run any Abbreviation/Acronym               JM
*              Glossary file option.                                    JM
*
        DECLARE          &USERINPT AS INTEGER     INITIAL  0
        DECLARE        &OPTIONERR  AS STRING (79) INITIAL "        "
        DECLARE        &OPTIONERR2 AS STRING (79) INITIAL "        "
        DECLARE          &USERNAME  AS STRING (24) INITIAL "        "
        DECLARE            &ERRMSG  AS STRING (34) INITIAL "        "
        DECLARE            &RUNLIB  AS STRING  (8) INITIAL "        "   JM
        DECLARE            &RUNVOL  AS STRING  (6) INITIAL "      "     JM
*
        EXTRACT &USERNAME=USERNAME, &RUNLIB=OUTLIB, &RUNVOL=RUNVOL      JM
*
GETUSERINPT:   PROMPT  PFKEY = &USERINPT    CENTER
     DIM "CRES: Glossary Maintenance Subsystem                     (Gl
ossary Menu Screen)";
     DIM "============================================================
===================";
     DIM " ";
     DIM "        This subsystem will allow you to maintain two glossar JM
ies - one for ";                                                        JM
     DIM "        abbreviations and acronyms, and another as a general  JM
glossary.";                                                             JM
     DIM "        Select the", BRIGHT  "PF key", "corresponding to your JM
 desired operation.";                                                   JM
     DIM " ";" ";
     DIM "                  ",LINE "PF",DIM "  ",
     LINE                       "  "                     Operation
  . ";DIM " ";
     DIM "                   ",Bright "1"," - Maintain Abbreviation-Acron
ym Glossary";
     DIM "                   ",Bright "2"," - Maintain Glossary";
     DIM "                   ",Bright "3"," - Print Abbreviation-Acronym
Glossary";
     DIM "                   ",Bright "4"," - Print Glossary";
     DIM " ";
     DIM "                  ",Bright "16"," - Return to CRES Master Menu"
;    DIM " ";" ";" ";" ";" ";
     BRIGHT &OPTIONERR;
     BLINK  &OPTIONERR2;
*
        ASSIGN     &ERRMSG = " "
        ASSIGN     &OPTIONERR = " "
        ASSIGN     &OPTIONERR2 = " "
*
        IF     &USERINPT EQ 16                  GOTO USEREXIT
        IF     &USERINPT EQ 32                  GOTO USEREXIT
        IF     &USERINPT EQ 1                   GOTO RUNBCG
        IF     &USERINPT EQ 17                  GOTO RUNBCG
        IF     &USERINPT EQ 2                   GOTO RUNGLO
```

```
Wang VS Integrated Editor - Version  6.10.00       14:44 11/15/84    Page      2
Input File is CRES@BCG in Library CRES@PRC on Volume CRES01

        IF     &USERINPT EQ 18                     GOTO RUNGLO                005900
        IF     &USERINPT EQ 3                      GOTO RUNPBC                006000
        IF     &USERINPT EQ 19                     GOTO RUNPBC                006100
        IF     &USERINPT EQ 4                      GOTO RUNPGL                006200
        IF     &USERINPT EQ 20                     GOTO RUNPGL                006300
                                                                              006400
               ASSIGN &OPTIONERR = "I'm sorry, but your selected option       006500
 is not currently available."                                                 006600
               ASSIGN &OPTIONERR2 = "Please select another topic."            006700
               GOTO GETUSERINPT                                               006800
*                                                                             006900
RUNBCG:    RUN CRES@BCG IN &RUNLIB ON &RUNVOL                                 007000
           IF   RUNBCG EQ 0         GOTO GETUSERINPT                          007100
           GOTO USEREXIT                                                      007200
*                                                                             007300
RUNGLO:    RUN CRESGLOS IN &RUNLIB ON &RUNVOL                                 007400
           IF   RUNGLO EQ 0         GOTO GETUSERINPT                          007500
           GOTO USEREXIT                                                      007600
*                                                                             007700
RUNPBC:    RUN CRES@BCP IN &RUNLIB ON &RUNVOL                                 007800
           IF   RUNPBC EQ 0         GOTO GETUSERINPT                          007900
           GOTO USEREXIT                                                      008000
*                                                                             008100
RUNPGL:    RUN CRESGLOP IN &RUNLIB ON &RUNVOL                                 008200
           IF   RUNPGL EQ 0         GOTO GETUSERINPT                          008300
           GOTO USEREXIT                                                      008400
*                                                                             008500
USEREXIT:      RETURN                                                         008600
```

Create/Maintain Abbreviation/Acronym Glossary (CRES@BCG)

CRES@BCG in library CRES@SRC is the BASIC language program to create/maintain the Abbreviation/Acronym Glossary. The object language version is CRES@BCG in library CRES@SAV.

This program first allows the user to specify the Abbreviation/Acronym Glossary to be created or maintained. Then, the program enables the user to add, delete, or modify any given term in the glossary. There is a protection system implemented, and provision is made for clearing the protect bytes, if for some reason the bytes have been left set incorrectly.

Each entry in the Abbreviation/Acronym Glossary can contain up to 20 characters, a flag indicating whether it is an abbreviation or an acronym, and a definition. The data record description is provided in appendix A.

A complete program listing follows. Appendix C contains a sample flowchart.

```
Wang VS Integrated Editor - Version  6.10.00       11:25 11/09/84   Page      1
Input File is CRES@BCG in Library CRES@SRC on Volume CRES02

000010 /*  CRES ABBREVIATION/ACRONYM GLOSSARY SUBSYSTEM PROGRAM       */  RT
000020 /*                                                             */  RT
000030 /*                AUTHOR : Rose Tank                           */  JM
000040 /*                Date:    March 12, 1984                      */  RT
000050 /*                                                             */  RT
000060 /* Abstract: This program is used to create and maintain the   */  JM
000070 /* CRES Abbreviation - Acronym List.                           */  JM
000071                                                                    JM
000080 DIM WORD$20,CODE$1, ER$65,PROTECT$3,MESING$30                      JM
000090 DIM F1$20,IOBUFF$190,ER1$50,F2$10                                  RT
000100 DIM FILE$8,USER$3,USERNAME$24,WRKST$3                              RT
000110 DIM HEADER$50,E$1,PF16$4,X$1                                       JM
000120 DIM ENTER$5,ILIB$8,IVOL$6,PASSWRD$11                               JM
000130 DIM IDFL$1,DEF$(3)55                                               RT
000140 DIM MODE$15,ATTR$18,ENTR$16,TAB$3,BACKTAB$7                        RT
000150 ATTR$="CURRENT ATTRIBUTES": ENTR$="LEGAL ATTRIBUTES"               RT
000160 TAB$="TAB": BACKTAB$="BACKTAB"                                     RT
000170 ENTER$="ENTER"                                                     RT
000180 PF16$="PF16"                                                       RT
000190 PF$="PF": OPER$="  Operation"                                      RT
000200 O$="1": T$="2": TH$="3": FT$="14": ST$="16"                        RT
000210 WELCOME$ ="Welcome to the"                                         RT
000220 HEADER$="CRES ABBREVIATION & ACRONYM MAINTENANCE SUBSYSTEM"        RT
000230                                                                    RT
000240 /* The following two lines are used as formats in the packing */   RT
000250 /* and the unpacking of record field values                   */   RT
000260 F1$=HEX(A014A001A037A037A037A0030001)                              RT
000270 F2$=HEX(008AA0030001)                                              RT
000280                                                                    RT
000290 CALL "EXTRACT" ADDR("ID",USER$,"IL",ILIB$,"IV",IVOL$)              RT
000300                                                                    RT
000310 /* SET UP THE USER FILE BLOCK */                                   RT
000320                                                                    RT
000330 SELECT #1,"ABACGL",VARC,INDEXED,RECSIZE=190,KEYPOS=1,KEYLEN=20     RT
000350                                                                    RT
000360  CALL "LIMITS"("ABBRELST",ILIB$,IVOL$,CODE$)                       RT
000370   IF CODE$<>"N" THEN 430                                           JM
000380   OPEN NOGETPARM #1,OUTPUT,FILE="ABBRELST",LIBRARY=ILIB$,        ! RT
000390      VOLUME=IVOL$                                                  RT
000400   IOBUFF$=" ABBREVIATION/ACRONYM GLOSSARY"                         RT
000410   CLOSE #1                                                         RT
000420                                                                    RT
000430  OPEN NOGETPARM #1,SHARED, FILE="ABBRELST", LIBRARY =ILIB$,       ! RT
000440      VOLUME =IVOL$                                                 RT
000450                                                                    RT
000460 /* This section of code generates the first screen, which asks  */ JM
000470 /* for the particular abbreviation (or acronym) and its corres- */ JM
000475 /* ponding operation -  either insert abbreviation (acronym),   */ JM
000480 /* delete abbreviation (acronym), or modify abbreviation (acro- */ JM
000485 /* nym). The user is also given the option of returning to the  */ JM
000490 /* Glossary Maintenance Menu.                                   */ JM
000510                                                                    RT
000520 WORD$,ER$,ER1$=" " :E$=HEX(8C)                                     RT
000530 X$=HEX(81)                                                         JM
000540 PASSWRD$=HEX(000102030E101112131E20)                               JM
000550                                                                    RT
000560 CWMENU:                                                            RT
```

```
Wang VS Integrated Editor - Version  6.10.00        11:25 11/09/84   Page      2
Input File is CRES@BCG in Library CRES@SRC on Volume CRES02

000570 ACCEPT                                                           ! RT
000580        AT (01,03),                                               ! RT
000590 "CRES: Abbreviation and Acronym Subsystem      (Word & Option Sel! RT
000600 ection Screen)",                                                 ! RT
000610        AT (02,03),                                               ! RT
000620 "================================================================! RT
000630 =============",                                                  ! RT
000640        AT (04,10), FAC(HEX(8C)),                                 ! RT
000650 WELCOME$         ,                                               ! RT
000660        AT (04,26), FAC(HEX(85)),                                 ! RT
000670 HEADER$,                                                         ! RT
000680        AT (06,05),                                               ! RT
000690 "Please select an abbreviation or acronym:",                     ! RT
000700        AT (08,32), FAC(X$),        WORD$         , CH(20),       ! JM
000710        AT (10,18), FAC(E$),        ER$           , CH(60),       ! RT
000720        AT (11,20), FAC(E$),        ER1$          , CH(50),       ! RT
000730        AT (13,05),                                               ! RT
000740 "To continue, select the PF key corresponding to the desired oper! RT
000750 ation.",                                                         ! RT
000760        AT (16,28), FAC(HEX(A5)),  PF$            , CH(02),       ! RT
000770        AT (16,35), FAC(HEX(AC)),  OPER$          , CH(31),       ! RT
000780        AT (18,28), FAC(HEX(84)),  O$             , CH(01),       ! RT
000790        AT (18,35),                                               ! RT
000800 "INSERT abbreviation or acronym",                                ! RT
000810        AT (19,28), FAC(HEX(84)),  T$             ,  CH(1),       ! RT
000820        AT (19,35),                                               ! RT
000830 "DELETE abbreviation or acronym",                                ! RT
000840        AT (20,28), FAC(HEX(84)),  TH$            ,  CH(1),       ! RT
000850        AT (20,35),                                               ! RT
000860 "MODIFY abbreviation or acronym",                                ! RT
000870        AT (22,28), FAC(HEX(84)),   FT$            ,  CH(02),     ! RT
000880        AT (22,35),                                               ! RT
000890 "Protection Override",                                           ! RT
000900        AT (23,28), FAC(HEX(84)),   ST$            ,  CH(02),     ! RT
000910        AT (23,35),                                               ! RT
000920 "Return to the Glossary Maintenance Menu",                       ! RT
000930 KEYS(PASSWRD$),                                                  ! JM
000940                KEY(OPTION)                                         JM
000950 IF OPTION=16 OR OPTION=32 THEN EXIT                                JM
000960                                                                    RT
000970 WELCOME$,HEADER$=" "                                               RT
000980 ER$,ER1$ =" ":   E$=HEX(8C)                                        RT
000990                                                                    RT
001000                          /* Check for confirmation of deletion */  RT
001010 IF (OPTION=0)AND(DF=1) THEN DEL                                    RT
001020                          /* Check for cancellation of deletion */  JM
001030 IF DF=1 THEN UPDATE                                                RT
001040                      /* Check for override of protection bytes */ JM
001050 IF (OPTION=14) OR (OPTION=30) THEN OVERRIDE                        RT
001060 IF STR(WORD$,1,1)<>" " THEN REED                                   RT
001070                                                                    RT
001080  PRINT BELL                                                        RT
001090  ER$="              The first character cannot be blank."          RT
001100  ER1$= "   Please reenter the appropriate word and PF key."        RT
001110  E$= HEX(94)                                                       RT
001120 GOTO CWMENU                                                        RT
001130                                                                    RT
```

```
Wang VS Integrated Editor - Version  6.10.00       11:25 11/09/84   Page      3
Input File is CRES@BCG in Library CRES@SRC on Volume CRES02

001140 OVERRIDE:                                                           RT
001150    IF NF=1 AND P%=1 THEN CHK                                        RT
001160    ER$= "Please check if word exists by selecting an option."       JM
001170    E$=HEX(84)                                                       RT
001180 GOTO  CWMENU                                                        RT
001190                                                                     RT
001200 /* Protection override is confirmed if the protection was set */    RT
001210 /* by a user not currently logged on or if the current user's */    RT
001220 /* id equals the protection bytes.                            */    JM
001230 CHK:                                                                RT
001240 IF (USER$=PROTECT$) OR (WRKST%=-1) THEN REMOVE                      RT
001250   ER$= "You don't have the clearance to override the protect."      RT
001260   ER1$=" "                                                          RT
001270   E$= HEX(84)                                                       RT
001280 GOTO CWMENU                                                         RT
001290                                                                     RT
001300 /* Reset the protection byte to blanks */                           RT
001310 REMOVE: PROTECT$= " ":P%=0                                          RT
001320           IF WORD$=" " THEN 1080                                    JM
001330           READ #1, HOLD, KEY=WORD$,IOBUFF$                          RT
001340           $PACK (F=F1$) IOBUFF$ FROM WORD$,IDFL$, DEF$(1),DEF$(2),! RT
001350              DEF$(3),PROTECT$                                       RT
001360           REWRITE #1, IOBUFF$, DATA GOTO IOERR2                     RT
001370           ER$= "          You may now select your option."          RT
001380           ER1$= " "                                                 RT
001390           E$= HEX(84)                                               RT
001400          GOTO CWMENU                                                RT
001410                                                                     RT
001420 IOERR2:  PRINT                                                      RT
001430           PRINT HEX(94),"Error occurred on file "; FILE$            RT
001440           PRINT HEX(94),"Error code = "; FS(#1)                     RT
001450           STOP "Touch ENTER to return to menu."                     RT
001460           GOTO CWMENU                                               RT
001470                                                                     RT
001480 /* Error message is printed if "ENTER" was hit before the option*/ RT
001490 /* was entered                                                 */ RT
001500 REED: IF OPTION<>0 THEN SRCH                                        RT
001510       ER$= "                    Command missing."                   RT
001520       E$= HEX(94)                                                   RT
001530      GOTO CWMENU                                                    RT
001540 SRCH: P%=1                                                          RT
001550       READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,          ! RT
001560               DATA GOTO IOERR2                                      RT
001570                                                                     RT
001580      NF=1  /* The word was found */                                 RT
001590                                                                     RT
001600     /* Unpack and check if currently being modified by another */  RT
001610                                                                     RT
001620         $UNPACK (F=F1$) IOBUFF$ TO WORD$,IDFL$,DEF$(1),DEF$(2),  ! RT
001630                DEF$(3),PROTECT$                                     RT
001640         IF PROTECT$= " " THEN NOW                                   RT
001650           CALL "FINDUSER" ADDR(PROTECT$,USERNAME$,WRKST%)           RT
001660           CONVERT WRKST% TO WRKST$, PIC(###)                        RT
001670            E$= HEX(94)                                              RT
001680           ER$="      Sorry, "& USERNAME$ &" is currently editing "  RT
001690           ER1$="       '"& WORD$ & "'" & " at workstation "& WRKST$ RT
001700           REWRITE #1,IOBUFF$                                        RT
```

```
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Input File is CRES@BCG in Library CRES@SRC on Volume CRES02

001710             GOTO CWMENU                                             RT
001720                                                                     RT
001730 /* Set the protection bytes */                                      JM
001740 NOW:       PROTECT$= USER$                                          RT
001750            $PACK (F=F1$) IOBUFF$ FROM WORD$, IDFL$, DEF$(1),DEF$(2)! RT
001760              ,DEF$(3),PROTECT$                                      RT
001770            REWRITE #1, IOBUFF$, DATA GOTO IOERR2                    RT
001780                                                                     RT
001790       /* NOW BRANCH TO THE OPTION SELECTED */                       RT
001800 OPT:  ON OPTION GOTO INSERT,DELET,MODIFY                            RT
001810       ON OPTION-16 GOTO INSERT,DELET,MODIFY                         RT
001820                                                                     RT
001830 NOTFOUND: NF=0  /* The word was not found in the list */            RT
001840             GOTO OPT                                                RT
001850                                                                     RT
001860 INSERT:                                                             RT
001870         /* NF=0 indicates the word doesn't yet exist so go ahead */ RT
001880         /* and insert. NF=1 indicates the word exists.          */ RT
001890          IF NF=1 THEN EXIST                                         RT
001900          MODE$= "(Insert Screen)"                                   RT
001901          MESING$="inserting abbreviation/acronym"                   JM
001910          IDFL$,DEF$()=" "                                           RT
001920          IOBUFF$=" ":  PROTECT$= USER$                              RT
001930          $PACK (F=F1$) IOBUFF$ FROM WORD$, IDFL$,DEF$(1),DEF$(2), ! RT
001940             DEF$(3),PROTECT$                                        RT
001950          WRITE #1, IOBUFF$, DATA GOTO IOERR2                        RT
001960          GOTO INS                                                   RT
001970                                                                     RT
001980 /* Coming from insert with the word currently existing, */          RT
001990 /* print an error message and erase the protection bytes */         JM
002000 EXIST:                                                              RT
002010        ER$= "          '" & WORD$ & "' already exists in this list." JM
002020         E$= HEX(94)                                                 RT
002030        READ #1, HOLD, KEY= WORD$,IOBUFF$                            RT
002040        PROTECT$=" " :P%=0                                           RT
002050        $PACK (F=F1$) IOBUFF$ FROM WORD$, IDFL$,DEF$(1),DEF$(2),   ! RT
002060            DEF$(3),PROTECT$                                         RT
002070        REWRITE #1, IOBUFF$, DATA GOTO IOERR2                        RT
002080        GOTO CWMENU                                                  RT
002090                                                                     RT
002100 /* DELET,DEL,NODEL- all pertain to the delete option */             RT
002110 /* DELET- gives the user a chance to cancel the deletion */         RT
002120 DELET: IF NF=0 THEN NODEL                                           RT
002130         DF=1                                                        RT
002140         ER$= "    Press ENTER to confirm deletion of "& WORD$       JM
002150         ER1$="       or press PF14 to cancel deletion."             JM
002160         X$=HEX(84)                                                  JM
002170         PASSWRD$=HEX(000E1E)                                        JM
002180          E$= HEX(94)                                                RT
002190         GOTO CWMENU                                                 RT
002200                                                                     RT
002210 /* DEL- deletes the entire record */                                RT
002220 DEL:    READ #1, HOLD,KEY=WORD$,IOBUFF$                             RT
002230         DELETE #1                                                   RT
002240         DF=0                                                        RT
002250         ER$= "    '"&WORD$&"' deleted - Please continue."           JM
002260         X$=HEX(81)                                                  JM
```

```
Wang VS Integrated Editor - Version  6.10.00       11:25 11/09/84   Page      5
Input File is CRES@BCG in Library CRES@SRC on Volume CRES02

002270        PASSWRD$=HEX(000102030E101112131E20)                        JM
002280        NF=0                                                        JM
002290        E$= HEX(8C)                                                 JM
002300        WORD$=" "                                                   RT
002310        GOTO CWMENU                                                 RT
002320                                                                    RT
002330 /* NODEL- print an error message when the word doesn't exist */    RT
002340 NODEL: ER$= "    "& WORD$ & "' does not exist in this list."      JM
002350        E$= HEX(94)                                                 RT
002360        GOTO CWMENU                                                 RT
002370                                                                    RT
002380 MODIFY: IF NF=1 THEN GETIT                                         RT
002390                                 /* if word not in list,  */        RT
002400          ER$= "          Modification request denied -"           JM
002410          ER1$ ="     "&WORD$&" does not exist in this list."      JM
002420          E$=HEX(94)            /* set up message and fac and */    RT
002430         GOTO CWMENU            /* go back up to previous screen */ RT
002440                                                                    RT
002450 GETIT:/*READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,  */      RT
002460           /*DATA GOTO IOERR2 */                                    RT
002470                                                                    RT
002480 MODE$           ="(Modify Screen)"                                 RT
002481 MESING$="modifying abbreviation/acronym"                           JM
002490 INS:                                                               RT
002500 ER1$           =" "                                                RT
002510                                                                    RT
002520 /* This accept statement generates a screen with the attributes */ RT
002530 /* corresponding to each abbreviation (acronym) appropriately   */ JM
002535 /* labeled for insert or modification.                         */ JM
002570                                                                    RT
002580 AOK:                                                               RT
002590                                                                    RT
002600 ACCEPT                                                           ! RT
002610        AT (01,03),                                               ! RT
002620 "CRES: Abbreviation and Acronym Subsystem",                      ! RT
002630        AT (01,66), FAC(HEX(8C)), MODE$          , CH(15),        ! RT
002640        AT (02,03),                                               ! RT
002650 "================================================================! RT
002660 =============",                                                  ! RT
002670        AT (04,06),                                               ! RT
002680 "Please enter the appropriate attributes.",                      ! RT
002690        AT (07,33), FAC(HEX(AC)),  ATTR$         , CH(18),        ! RT
002700        AT (07,60), FAC(HEX(AC)),  ENTR$         , CH(16),        ! RT
002710        AT (09,06),                                               ! RT
002720 "ABBREVIATION OR ACRONYM:",                                      ! RT
002730        AT (09,33), FAC(HEX(85)),  WORD$         , CH(20),        ! RT
002740        AT (11,06),                                               ! RT
002750 "IDENTIFICATION FLAG:",                                          ! RT
002760        AT (11,33), IDFL$         , CH(01),                       ! RT
002770        AT (11,60),                                               ! RT
002780 "B= Abbreviation",                                               ! RT
002790        AT (12,60),                                               ! RT
002800 "C= Acronym",                                                    ! RT
002810        AT (14,25), FAC(E$),         ER$           , CH(50),      ! RT
002820        AT (16,06),                                               ! RT
002830 "DEFINITION:",                                                   ! RT
002840        AT (16,20), FAC(HEX(81)),    DEF$(1)       , CH(55),      ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00      11:25 11/09/84   Page      6
Input File is CRES@BCG in Library CRES@SRC on Volume CRES02

002850        AT (17,20), FAC(HEX(81)),    DEF$(2)       , CH(55),      ! RT
002860        AT (18,20), FAC(HEX(81)),    DEF$(3)       , CH(55),      ! RT
002870        AT (21,16),                                               ! RT
002880 "Use",                                                           ! RT
002890        AT (21,20), FAC(HEX(85)),    TAB$          , CH(03),      ! RT
002900        AT (21,24),                                               ! RT
002910 "or",                                                            ! RT
002920        AT (21,27), FAC(HEX(85)),    BACKTAB$      , CH(07),      ! RT
002930        AT (21,35),                                               ! RT
002940 "to move between modifiable fields.",                            ! RT
002950        AT (23,30),                                               ! RT
002960 "Press",                                                         ! RT
002970        AT (23,36),  FAC(HEX(85)),   ENTER$        , CH(05),      ! RT
002980        AT (23,42),                                               ! RT
002990 "to continue",                                                   ! JM
003000        AT (24,13),                                               ! JM
003010 "Press",                                                         ! RT
003020        AT (24,19), FAC(HEX(84)),    PF16$         , CH(04),      ! JM
003030        AT (24,24),                                               ! JM
003040 "to exit without ",                                              ! JM
003041        AT (24,40), FAC(HEX(8C)), MESING$,                        ! JM
003050 KEYS(BIN(0)&BIN(16)&BIN(32)),                                    ! RT
003060 ON (BIN(16)&BIN(32)) GOTO EXIOM,EXIOM                              RT
003070                                                                  RT
003080 ER$=" ": E$=HEX(8C)                                              RT
003090 /*  Check for validity of entries  */                            RT
003100                                                                  RT
003110           IF POS("BC"=IDFL$)>0 THEN NEXT2                        RT
003120           ER$ = "  Identification flag is illegal."              RT
003130           E$ = HEX(94)                                           RT
003140           GOTO AOK                                               RT
003150                                                                  RT
003160  NEXT2: IF DEF$(1)<>" " THEN UPDATE                              RT
003170         ER$ = "Please enter your definition starting on line 1."  RT
003180         E$ = HEX(94)                                             RT
003190         GOTO AOK                                                 RT
003200                                                                  RT
003210 /* EXIOM is used to abnormally exit the insert mode and */       RT
003220 /* NOCHAN is used to abnormally exit the modify mode    */       RT
003230 EXIOM:  READ #1, HOLD,KEY=WORD$,IOBUFF$                          RT
003240         IF NF=1 THEN NOCHAN                                      RT
003250         DELETE #1                                                RT
003260         ER$= "                   "&WORD$&" was not inserted."    RT
003270         GOTO CWMENU                                              RT
003280                                                                  RT
003290 NOCHAN: PROTECT$ = " ":P%=0                                      RT
003300         $PACK (F=F2$) IOBUFF$ FROM PROTECT$                      RT
003310         REWRITE #1,IOBUFF$,DATA GOTO IOERR2                      RT
003320         ER$= "                   No changes were saved."         RT
003330         ER1$=" "                                                 RT
003340         GOTO CWMENU                                              RT
003350                                                                  RT
003360 /* UPDATE removes the protection on the record and writes out */  RT
003370 /* the final data as input.                                   */  JM
003380 UPDATE: READ #1, HOLD, KEY=WORD$, IOBUFF$                        RT
003390         PROTECT$ = " ":P%=0                                      RT
003400         $PACK (F=F1$) IOBUFF$ FROM WORD$,IDFL$,DEF$(1),DEF$(2),  ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00       11:25 11/09/84   Page      7
Input File is CRES@BCG in Library CRES@SRC on Volume CRES02

003410              DEF$(3),PROTECT$                                           RT
003420          REWRITE #1,IOBUFF$,DATA GOTO IOERR2                            RT
003430          ER1$= " "                                                      RT
003440          IF NF=0 THEN RITE      /* NF=0 indicates insert mode */        RT
003450          IF DF=1 THEN EXDEL     /* DF=1 indicates delete mode */        RT
003460                                 /* otherwise in modify mode   */        RT
003470 ER$="'"&WORD$&"' modifications updated - Please continue."              RT
003480           E$=HEX(8C)                                                    RT
003490          WORD$=" "                                                      RT
003500          GOTO CWMENU                                                    RT
003510 RITE:                                                                   RT
003520          ER$= "   '"&WORD$&"' inserted - Please continue."              RT
003530          E$= HEX(8C)                                                    RT
003540          WORD$=" "                                                      RT
003550          GOTO CWMENU                                                    RT
003560                                                                         RT
003570 EXDEL: DF=0                                                             RT
003580         X$=HEX(81)                                                      JM
003590         PASSWRD$=HEX(000102030E101112131E20)                            JM
003600         ER$ ="               Deletion cancelled."                       RT
003610         GOTO CWMENU                                                     RT
003620                                                                         RT
003630 EXIT: CLOSE #1                                                          RT
003650       /* RETURN TO ABBREVIATION/ACRONYM GLOSSARY MENU */                JM
```

Create/Maintain Technical Glossary (CRESGLOS)

CRESGLOS in library CRES@SRC is the BASIC language program to create/maintain the Technical Glossary. The object language version is CRESGLOS in library CRES@SAV.

This program first allows the user to specify the Technical Glossary to be created or maintained. Then, the program enables the user to add, delete, or modify any given term in the glossary. There is a protection system implemented, and provision is made for clearing the protect bytes, if for some reason the bytes have been left set incorrectly.

Each entry in the Technical Glossary can contain up to 20 characters, identification of up to three Technical Word Lists on which it appears, a flag indicating whether it is a "Mandatory Technical Word" (one which is so basic to the particular technical area in which it is used that it is counted as a single syllable in reading grade level determinations), and a definition. The data record description is provided in appendix A.

A complete program listing follows. Appendix C contains a sample flowchart.

```
Wang VS Integrated Editor - Version  6.10.00       12:50 10/30/84    Page       1
Input File is CRESGLOS in Library CRES@SRC on Volume CRES02

000010 /*         CRES GENERAL GLOSSARY SUBSYSTEM PROGRAM                 */  RT
000020 /*                                                                 */  RT
000030 /*                 AUTHOR : Rose Tank                              */  JM
000040 /*                 Date:    March 12, 1984                         */  RT
000050 /*                                                                 */  RT
000060 /*  Abstract: This program is used to create and/or maintain       */  JM
000061 /*  the CRES Glossary of Technical Words.                          */  JM
000070                                                                        RT
000080 DIM WORD$20,CODE$1, ER$65,PROTECT$3,MTWFL$1                            RT
000090 DIM F1$20,IOBUFF$215,ER1$50,F2$10,ILIB$8,IVOL$6                        RT
000100 DIM FIL$(3)8,USER$3,USERNAME$24,WRKST$3                                RT
000110 DIM HEADER$40,PF16$4                                                   RT
000120 DIM ENTER$5,X$1,MESING$14                                              JM
000130 DIM DEF$(3)55,PASSWRD$11                                               JM
000140 DIM MODE$15,CURRENT ATTR$18,TAB$3,BACKTAB$7                            RT
000150 CURRENT ATTR$="CURRENT ATTRIBUTES"                                     RT
000160 TAB$="TAB": BACKTAB$="BACKTAB"                                         RT
000170 ENTER$="ENTER"                                                         RT
000180 PF16$="PF16"                                                           RT
000190 PF$="PF": OPER$="  Operation"                                          RT
000200 O$="1": T$="2": TH$="3": FT$="14": ST$="16"                            RT
000210 WELCOME$ ="Welcome to the"                                             RT
000220 HEADER$="CRES GLOSSARY MAINTENANCE SUBSYSTEM"                          RT
000230                                                                        RT
000240 /* The following two lines are used as formats in the packing */      RT
000250 /* and the unpacking of record field values                   */      RT
000260 F1$=HEX(A014A008A008A008A037A037A037A001A0030002)                      RT
000270 F2$=HEX(00D2A0030002)                                                  RT
000280                                                                        RT
000290 CALL "EXTRACT" ADDR("ID",USER$,"IL",ILIB$,"IV",IVOL$)                  RT
000300                                                                        RT
000310 /* SET UP THE USER FILE BLOCK */                                       RT
000320                                                                        RT
000330 SELECT #1,"GLOSSY",VARC,INDEXED,RECSIZE=215,KEYPOS=1,KEYLEN=20         RT
000340                                                                        RT
000350 CALL "LIMITS"("GLOSSARY",ILIB$,IVOL$,CODE$)                            RT
000360 IF CODE$="Y" THEN 430                                                  RT
000370  OPEN NOGETPARM #1, OUTPUT, FILE="GLOSSARY",LIBRARY=ILIB$,          :  RT
000380    VOLUME=IVOL$                                                        RT
000390  IOBUFF$=" CRES GLOSSARY"                                              RT
000400  WRITE #1, IOBUFF$                                                     RT
000410  CLOSE #1                                                              RT
000420                                                                        RT
000430  OPEN NOGETPARM #1,SHARED, FILE="GLOSSARY", LIBRARY =ILIB$,         :  RT
000440      VOLUME =IVOL$                                                     RT
000450                                                                        RT
000460 /* This section of code generates the first screen, which asks  */ JM
000470 /* for the particular word and its corresponding operation -     */ JM
000480 /* either insert word, delete word, or modify word. The user is */ RT
000490 /* also at this point given the option of returning to the       */ JM
000500 /* Glossary Maintenance Menu.                                    */ JM
000510                                                                        RT
000520 WORD$,ER$,ER1$=" " :E$=HEX(8C)                                         RT
000521 X$=HEX(81)                                                             JM
000522 PASSWRD$=HEX(000102030E101112131E20)                                   JM
000530                                                                        RT
000540 CWMENU:                                                                RT
```

```
Wang VS Integrated Editor - Version  6.10.00       12:50 10/30/84    Page      2
Input File is CRESGLOS in Library CRES@SRC on Volume CRES02

000550 ACCEPT                                                           : RT
000560        AT (01,03),                                               : RT
000570 "CRES: Glossary Maintenance Subsystem          (Word & Option Sel: RT
000580 ection Screen)",                                                 : RT
000590        AT (02,03),                                               : RT
000600 "================================================================: RT
000610 ==============",                                                 : JM
000620        AT (04,15), FAC(HEX(8C)),                                 : RT
000630 WELCOME$         ,                                               : RT
000640        AT (04,31), FAC(HEX(85)),                                 : RT
000650 HEADER$,                                                         : RT
000660        AT (06,05),                                               : RT
000670 "Please select a word:",                                         : RT
000680        AT (08,32), FAC(X$),        WORD$         , CH(20),       : JM
000690        AT (10,18), FAC(E$),        ER$           , CH(60),       : RT
000700        AT (11,20), FAC(E$),        ER1$          , CH(50),       : RT
000710        AT (13,05),                                               : RT
000720 "To continue, select the PF key corresponding to the desired oper: RT
000730 ation.",                                                         : RT
000740        AT (16,28), FAC(HEX(A5)),   PF$           , CH(02),       : RT
000750        AT (16,35), FAC(HEX(AC)),   OPER$         , CH(31),       : RT
000760        AT (18,28), FAC(HEX(84)),   O$            , CH(01),       : RT
000770        AT (18,35),                                               : RT
000780 "INSERT a technical word         ",                              : RT
000790        AT (19,28), FAC(HEX(84)),    T$           ,  CH(1),       : RT
000800        AT (19,35),                                               : RT
000810 "DELETE a technical word         ",                              : RT
000820        AT (20,28), FAC(HEX(84)),    TH$          ,  CH(1),       : RT
000830        AT (20,35),                                               : RT
000840 "MODIFY a technical word         ",                              : RT
000850        AT (22,28), FAC(HEX(84)),     FT$           ,  CH(02),    : RT
000860        AT (22,35),                                               : RT
000870 "Protection Override",                                           : RT
000880        AT (23,28), FAC(HEX(84)),     ST$           ,  CH(02),    : RT
000890        AT (23,35),                                               : RT
000900 "Return to the Glossary Maintenance Menu",                       : RT
000910 KEYS(PASSWRD$),                                                  : JM
000920  KEY(OPTION)                                                       JM
000930 IF OPTION=16 OR OPTION=32 THEN EXIT                                JM
000940                                                                    RT
000950 WELCOME$,HEADER$=" "                                               RT
000960 ER$,ER1$ =" ":   E$=HEX(8C)                                        RT
000970                                                                    RT
000980                          /* Check for confirmation of deletion */  RT
000990 IF (OPTION=0)AND(DF=1) THEN DEL                                    RT
001000                          /* Check for cancellation of deletion  */ JM
001010 IF DF=1 THEN UPDATE                                                RT
001020                       /* Check for override of protection byte */  RT
001030 IF (OPTION=14) OR (OPTION=30) THEN OVERRIDE                        RT
001040 IF STR(WORD$,1,1)<>" " THEN REED                                   RT
001050                                                                    RT
001060  PRINT BELL                                                        RT
001070  ER$="              The first character cannot be blank."          RT
001080  ER1$= "   Please reenter the appropriate word and PF key."        RT
001090  E$= HEX(94)                                                       RT
001100 GOTO CWMENU                                                        RT
001110                                                                    RT
```

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```
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Input File is CRESGLOS in Library CRES@SRC on Volume CRES02

001120 OVERRIDE:                                                           RT
001130    IF NF=1 AND P%=1 THEN CHK                                        RT
001140    ER$="Please check if word exists first by selecting an option."  RT
001150    E$=HEX(84)                                                       RT
001160 GOTO  CWMENU                                                        RT
001170                                                                     RT
001180 /* Protection override is confirmed if the protection was set */    RT
001190 /* by a user not currently logged on or if the current user's */    RT
001200 /* id equals the protection byte.                              */   RT
001210 CHK:                                                                RT
001220 IF (USER$=PROTECT$) OR (WRKST%=-1) THEN REMOVE                      RT
001230   ER$= "You don't have the clearance to override the protect."      RT
001240   ER1$=" "                                                          RT
001250   E$= HEX(84)                                                       RT
001260 GOTO CWMENU                                                         RT
001270                                                                     RT
001280 /* Reset the protection byte to blanks */                           RT
001290 REMOVE: PROTECT$= " ":P%=0                                          RT
001291            IF WORD$=" " THEN 1060                                   JM
001300            READ #1, HOLD, KEY=WORD$,IOBUFF$                         RT
001310            $PACK(F=FI$) IOBUFF$ FROM WORD$,FIL$(1),FIL$(2),FIL$(3),: RT
001320               DEF$(1),DEF$(2),DEF$(3),MTWFL$,PROTECT$               RT
001330            REWRITE #1, IOBUFF$, DATA GOTO IOERR2                    RT
001340            ER$= "          You may now select your option."         RT
001350            ER1$= " "                                                RT
001360            E$= HEX(84)                                              RT
001370           GOTO CWMENU                                               RT
001380                                                                     RT
001390 IOERR2:  PRINT                                                      RT
001400            PRINT HEX(94),"Error occurred in GLOSSARY"               RT
001410            PRINT HEX(94),"Error code = "; FS(#1)                    RT
001420            STOP "Touch ENTER to return to menu."                    RT
001430            GOTO CWMENU                                              RT
001440                                                                     RT
001450 /* Error message is printed if "ENTER" was hit before the option*/  RT
001460 /* was entered                                                  */  RT
001470 REED: IF OPTION<>0 THEN SRCH                                        RT
001480        ER$= "          Please select a PF Key."                     RT
001490        E$= HEX(94)                                                  RT
001500       GOTO CWMENU                                                   RT
001510 SRCH:P%=1                                                           RT
001520        READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,          : RT
001530               DATA GOTO IOERR2                                      RT
001540                                                                     RT
001550       NF=1  /* The word was found */                                RT
001560                                                                     RT
001570      /* Unpack and check if currently being modified by another */  RT
001580                                                                     RT
001590           $UNPACK (F=FI$) IOBUFF$ TO WORD$,FIL$(1),FIL$(2),FIL$(3),: RT
001600                 DEF$(1),DEF$(2),DEF$(3),MTWFL$,PROTECT$             RT
001610           IF PROTECT$= " " THEN NOW                                 RT
001620             CALL "FINDUSER" ADDR(PROTECT$,USERNAME$,WRKST%)         RT
001630             CONVERT WRKST% TO WRKST$, PIC(##)                       RT
001640              E$= HEX(94)                                            RT
001650             ER$="      Sorry, "& USERNAME$ &" is currently editing " RT
001660             ER1$="       '"& WORD$ & "'" & " at workstation "& WRKST$ RT
001670             REWRITE #1,IOBUFF$                                      RT
```

```
          GOTO CWMENU                                                 RT
                                                                      RT
/* Set the protection byte */                                         RT
NOW:     PROTECT$= USER$                                              RT
         $PACK (F=F1$) IOBUFF$ FROM WORD$,FIL$(1),FIL$(2),FIL$(3): RT
           ,DEF$(1),DEF$(2),DEF$(3),MTWFL$,PROTECT$                   RT
         REWRITE #1, IOBUFF$, DATA GOTO IOERR2                        RT
                                                                      RT
     /* NOW BRANCH TO THE OPTION SELECTED */                          RT
OPT:  ON OPTION GOTO INSERT,DELET,MODIFY                              RT
      ON OPTION-16 GOTO INSERT,DELET,MODIFY                           RT
                                                                      RT
NOTFOUND: NF=0  /* The word was not found in the list */              RT
          GOTO OPT                                                    RT
                                                                      RT
INSERT:                                                               RT
       /* NF=0 indicates the word doesn't yet exist so go ahead */ RT
       /* and insert. NF=1 indicates the word exists.          */ RT
        IF NF=1 THEN EXIST                                            RT
        MODE$= "(Insert Screen)"                                      RT
        MESING$="inserting word"                                      JM
        FIL$(),DEF$(),MTWFL$=" ":P%=0                                 RT
        IOBUFF$=" ":  PROTECT$= USER$                                 RT
        $PACK (F=F1$) IOBUFF$ FROM WORD$,FIL$(1),FIL$(2),FIL$(3),: RT
           DEF$(1),DEF$(2),DEF$(3),MTWFL$,PROTECT$                    RT
        WRITE #1, IOBUFF$, DATA GOTO IOERR2                           RT
        GOTO INS                                                      RT
                                                                      RT
/* Coming from insert with the word currently existing, */            RT
/* print an error message and erase the protection byte */            RT
EXIST:                                                                RT
      ER$= "The word '" & WORD$ & "' already exists in this list." RT
       E$= HEX(94)                                                    RT
      READ #1, HOLD, KEY= WORD$,IOBUFF$                               RT
      PROTECT$=" ":P%=0                                               RT
      $PACK (F=F1$) IOBUFF$ FROM WORD$,FIL$(1),FIL$(2),FIL$(3),    : RT
          DEF$(1),DEF$(2),DEF$(3),MTWFL$,PROTECT$                     RT
      REWRITE #1, IOBUFF$, DATA GOTO IOERR2                           RT
      GOTO CWMENU                                                     RT
                                                                      RT
/* DELET,DEL,NODEL- all pertain to the delete option */               RT
/* DELET- gives the user a chance to cancel the deletion */           RT
DELET: IF NF=0 THEN NODEL                                             RT
       DF=1                                                           RT
      ER$= "         Press ENTER to confirm deletion of "& WORD$ RT
      ER1$="          or enter PF14 to cancel deletion."              RT
      X$=HEX(84)                                                      JM
      PASSWRD$=HEX(000E1E)                                            JM
       E$= HEX(94)                                                    RT
      GOTO CWMENU                                                     RT
                                                                      RT
/* DEL- deletes the entire record */                                  RT
DEL:   READ #1, HOLD,KEY=WORD$,IOBUFF$                                RT
       DELETE #1                                                      RT
       DF=0                                                           RT
       ER$= "    '"&WORD$&"' deleted - Please continue."              JM
       E$= HEX(8C)                                                    JM
```

```
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Input File is CRESGLOS in Library CRES@SRC on Volume CRES02

002211         X$=HEX(81)                                                   JM
002212         PASSWRD$=HEX(000102030E101112131E20)                         JM
002220         WORD$=" "                                                    RT
002221         NF=0
002230         GOTO CWMENU                                                  RT
002240                                                                      RT
002250 /* NODEL- print an error message when the word doesn't exist */      RT
002260 NODEL: ER$=  WORD$ & "' does not exist in this list."                RT
002270         E$= HEX(94)                                                  RT
002280         GOTO CWMENU                                                  RT
002290                                                                      RT
002300 MODIFY: IF NF=1 THEN GETIT                                           RT
002310                                /* if word not in list,  */           RT
002320           ER$= "            Modification request denied -"           RT
002330           ER1$ =WORD$&" does not exist in this list."                RT
002340           E$=HEX(94)           /* set up message and fac and */      RT
002350          GOTO CWMENU           /* go back up to previous screen */   RT
002360                                                                      RT
002370 GETIT:/*READ #1,HOLD,KEY=WORD$,IOBUFF$,EOD GOTO NOTFOUND,  */        RT
002380            /*DATA GOTO IOERR2 */                                     RT
002390                                                                      RT
002400 MODE$            ="(Modify Screen)"                                  RT
002405 MESING$          ="modifying word"                                   JM
002410 INS:                                                                 RT
002420                                                                      RT
002430 /* This accept statement generates a screen with the attributes */ RT
002440 /* corresponding to each word appropriately labeled for insert  */ RT
002450 /* or modification.                                             */ RT
002460                                                                      RT
002470 AOK:                                                                 RT
002480                                                                      RT
002490 ACCEPT                                                             ! RT
002500         AT (01,03),                                                ! RT
002510 "CRES: Glossary Subsystem ",  AT(01,66),FAC(HEX(8C)),MODE$,        ! RT
002520         AT (02,03),                                                ! RT
002530 "==============================================================! RT
002540 ==============",                                                   ! JM
002550         AT (04,03),                                                ! RT
002560 "  Please enter the appropriate attributes.",                      ! RT
002570         AT (07,05),                                                ! RT
002580 "WORD:",                                                           ! RT
002590         AT (07,14), FAC(HEX(85)),        WORD$        , CH(18), ! RT
002600         AT (10,05),                                                ! RT
002610 "APPEARING ON WORD LIST(S):  1)",                                  ! RT
002620         AT (10,36), FAC(HEX(81)),        FIL$(1)      , CH(08), ! RT
002630         AT (10,48),                                                ! RT
002640 "2)",                                                              ! RT
002650         AT (10,51), FAC(HEX(81)),        FIL$(2)      , CH(08), ! RT
002660         AT (10,63),                                                ! RT
002670 "3)",                                                              ! RT
002680         AT (10,66), FAC(HEX(81)),        FIL$(3)      , CH(08), ! RT
002690         AT (12,05),                                                ! RT
002700 "DEFINITION:",                                                     ! RT
002710         AT (12,19), FAC(HEX(81)),        DEF$(1)      , CH(55), ! RT
002720         AT (13,19), FAC(HEX(81)),        DEF$(2)      , CH(55), ! RT
002730         AT (14,19), FAC(HEX(81)),        DEF$(3)      , CH(55), ! RT
002740         AT (16,05),                                                ! RT
```

```
Wang VS Integrated Editor - Version  6.10.00        12:50 10/30/84   Page     6
Input File is CRESGLOS in Library CRES@SRC on Volume CRES02

002750 "MANDATORY TECHNICAL WORD:",                                         ! RT
002760         AT (16,36),  FAC(HEX(81)),       MTWFL$         , CH(01), ! RT
002770         AT (16,44),                                                ! RT
002780 "(Legal entries are ' ' or '*')",                                     ! RT
002790         AT (18,15), FAC(E$),             ER$            , CH(55), ! RT
002800         AT (20,15),                                                ! RT
002810 "Use",                                                                ! RT
002820         AT (20,19), FAC(HEX(85)),        TAB$           , CH(03), ! RT
002830         AT (20,23),                                                ! RT
002840 "or",                                                                 ! RT
002850         AT (20,26), FAC(HEX(85)),        BACKTAB$       , CH(07), ! RT
002860         AT (20,34),                                                ! RT
002870 "to move between modifiable fields.",                                 ! RT
002880         AT (23,30),                                                ! RT
002890 "Press",                                                              ! RT
002900         AT (23,36), FAC(HEX(85)),        ENTER$         , CH(05), ! RT
002910         AT (23,42),                                                ! RT
002920 "to continue",                                                        ! RT
002930         AT (24,21),                                                ! JM
002940 "Press",                                                              ! RT
002950         AT (24,27), FAC(HEX(84)),        PF16$          , CH(04), ! JM
002960         AT (24,32),                                                ! JM
002970 "to exit without ",                                                   ! JM
002971         AT (24,48), FAC(HEX(8C)), MESING$,                         ! JM
002980 KEYS(BIN(0)&BIN(16)&BIN(32)),                                         ! RT
002990 ON (BIN(16)&BIN(32)) GOTO EXIOM,EXIOM                                   RT
003000                                                                         RT
003010 ER$=" ": E$=HEX(8C)                                                     RT
003020 /*  Check for validity of entries  */                                   RT
003030                                                                         RT
003040          /* Make sure the files are stored consecutively */             RT
003050           FL%=0                                                         RT
003060           FOR I= 1 TO 2                                                 RT
003070             IF FIL$(I)<>" " OR FIL$(I+1)=" " THEN 3090                  RT
003080             FIL$(I)=FIL$(I+1):FIL$(I+1)=" ":FL%=1                       RT
003090           NEXT I                                                        RT
003100           IF FL%=1 THEN 3050                                            RT
003110                                                                         RT
003120          /* Make sure the definitions are stored consecutively */       RT
003121           FL%=0                                                         RT
003122           FOR I= 1 TO 2                                                 RT
003123             IF DEF$(I)<>" " OR DEF$(I+1)=" " THEN 3125                  RT
003124             DEF$(I)=DEF$(I+1):DEF$(I+1)=" ":FL%=1                       RT
003125           NEXT I                                                        RT
003126           IF FL%=1 THEN 3121                                            RT
003130                                                                         RT
003140          IF POS(" *"=MTWFL$)>0 THEN 3190                                RT
003150          ER$="  Mandatory technical word flag value is illegal."        RT
003160          E$= HEX(94)                                                    RT
003170          GOTO AOK                                                       RT
003180                                                                         RT
003190          IF DEF$(1)<>" " THEN UPDATE                                    RT
003200          ER$ = "Please enter your definition starting on line 1."       RT
003210          E$ = HEX(94)                                                   RT
003220          GOTO AOK                                                       RT
003230                                                                         RT
003240 /* EXIOM is used to abnormally exit the insert mode and */              RT
```

```
003250 /* NOCHAN is used to abnormally exit the modify mode     */          RT
003260 EXIOM:  READ #1, HOLD,KEY=WORD$,IOBUFF$                              RT
003270         IF NF=1 THEN NOCHAN                                          RT
003280         DELETE #1                                                    RT
003290         ER$= "                   "&WORD$&" was not inserted."        RT
003300         E$= HEX(84)                                                  RT
003310         GOTO CWMENU                                                  JM
003320                                                                      JM
003330 NOCHAN: PROTECT$ = " "                                               JM
003340         $PACK (F=F2$) IOBUFF$ FROM PROTECT$                          JM
003350         REWRITE #1,IOBUFF$,DATA GOTO IOERR2                          JM
003360         ER$= "                    No changes were saved."            JM
003370         ER1$=" " :E$=HEX(84)                                         JM
003380         GOTO CWMENU                                                  JM
003390                                                                      JM
003400 /* UPDATE removes the protection on the record and writes out */     JM
003410 /* the final data as input.                                   */     JM
003420 UPDATE: READ #1, HOLD, KEY=WORD$, IOBUFF$                            JM
003430         PROTECT$ = " ":P%=0                                          JM
003440         $PACK (F=F1$) IOBUFF$ FROM WORD$,FIL$(1),FIL$(2),FIL$(3),:   JM
003450             'DEF$(1),DEF$(2),DEF$(3),MTWFL$,PROTECT$                 JM
003460         REWRITE #1,IOBUFF$,DATA GOTO IOERR2                          JM
003470         ER1$= " "                                                    JM
003480         IF NF=0 THEN RITE       /* NF=0 indicates insert mode */     JM
003490         IF DF=1 THEN EXDEL      /* DF=1 indicates delete mode */     JM
003500                                 /* otherwise in modify mode   */     JM
003510 ER$="'"&WORD$&"' modifications updated - Please continue."           JM
003520          E$=HEX(8C)                                                  JM
003530         WORD$=" "                                                    JM
003540         GOTO CWMENU                                                  JM
003550 RITE:                                                                JM
003560         ER$= "    '"&WORD$&"' inserted - Please continue."           JM
003570         E$= HEX(8C)                                                  JM
003580         WORD$=" "                                                    JM
003590         GOTO CWMENU                                                  JM
003600                                                                      JM
003610 EXDEL: DF=0                                                          JM
003620        ER$ ="                  Deletion cancelled."                  JM
003621        X$=HEX(81)                                                    JM
003622        PASSWRD$=HEX(000102030E1011121З1E20)                          JM
003630        GOTO CWMENU                                                   JM
003640                                                                      JM
003650 EXIT: CLOSE #1                                                       JM
```

Print Abbreviation/Acronym Glossary (CRES@BCP)

CRES@BCP in library CRES@SRC is the BASIC language program to print the Abbreviation/Acronym Glossary. The object language version is CRES@BCP in library CRES@SAV.

This program first allows the user to specify the name of the Abbreviation/Acronym Glossary to be printed. Then the program enables the user to print out either the list of abbreviations, the list of acronyms, or the combined list. The glossary can be printed out in its entirety or some specified range can be printed. This printout can be displayed at the terminal or sent to the printer. An optional subtitle of up to two lines can be included for the printout, and the number of lines per page may be specified as some value less than the default value of 50.

A complete program listing follows. Appendix C contains a sample flowchart.

```
Wang VS Integrated Editor - Version  6.10.00        13:22 10/30/84    Page      1
Input File is CRES@BCP in Library CRES@SRC on Volume CRES02

000010 /*  CRES ABBREVIATION/ACRONYM GLOSSARY PRINT PROGRAM             */  RT
000020 /*                                                               */  RT
000030 /*              AUTHOR:  Rose Tank                               */  JM
000040 /*              Date:    March  12, 1984                         */  RT
000050 /*                                                               */  RT
000060                                                                      RT
000070 /* Abstract: This program is used to print or display all or     */  JM
000080 /* part of the Abbreviation/Acronym List.                        */  JM
000130                                                                      RT
000140 DIM CODE$1,MSG$53,CMSG$255,MSG2$40,RLIB$8                            RT
000150 DIM IOBUFF$190,SLIB$8,OPT$19                                         RT
000160 DIM FILE$08,LIB$08,SVOL$6                                            RT
000170 DIM IVOL$06,HEADER$51                                                RT
000180 DIM SUBTIT1$20,SUBTIT2$20                                            RT
000190 DIM ENTER$        05,RVOL$6                                          RT
000200 DIM ER$           58                                                 RT
000210 DIM TOP$           08                                                RT
000220 DIM PF15$         04                                                 RT
000230 DIM PF16$         04                                                 RT
000240 DIM X$            01                                                 RT
000250 DIM A$(3)         01                                                 RT
000260 DIM START$        15                                                 RT
000270 DIM END$          15                                                 RT
000280                                                                      RT
000290 ENTER$="ENTER"                                                       RT
000300 PF15$          ="PF15"                                               RT
000310 PF16$="PF16"                                                         RT
000320 WELCOME$="Welcome to the "                                           RT
000330 HEADER$      ="CRES ABBREVIATION/ACRONYM PRINT SUBSYSTEM"            RT
000340 FILE$="ABBRELST"                                                     RT
000350 CALL "EXTRACT" ADDR("IL",LIB$,"IV",IVOL$,"SL",SLIB$,"SV",SVOL$,   :
000360      "RL",RLIB$,"RV",RVOL$)                                          RT
000370 SELECT #1,"ABBREV",VARC,INDEXED,RECSIZE=190,KEYPOS=1,KEYLEN=20,   :  RT
000380           IOERR GOTO IOERR1                                          RT
000390                                                                      RT
000400 SELECT #2,"PRTFILE",PRINTER,RECSIZE=120, IOERR GOTO IOERR2           RT
000410                                                                      RT
000420      OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,       :  RT
000430      VOLUME = IVOL$                                                  RT
000440                                                                      RT
000450 /* This section of code generates the first screen, which asks  */  JM
000460 /* for the particular word interval and its corresponding       */  RT
000470 /* print  operation.  The user is given the option of returning */  RT
000480 /* to the Glossary Maintenance Menu, if desired.                 */  JM
000510                                                                      RT
000520 E$=HEX(8C)                                                           RT
000530 X$            ="X"                                                   RT
000540 LPP%          =50                                                    RT
000550 ENTER$        ="ENTER"                                               RT
000560 PF16$         ="PF16"                                                RT
000570 PRINTSCRN:                                                           RT
000580 START$        ="FIRST"                                               RT
000590 END$          ="LAST"                                                RT
000600 TOP$="TERMINAL"                                                      RT
000610 A$(),SUBTIT1$, SUBTIT2$ =" "                                         RT
000620 PRTSCREEN:                                                           RT
000630 ACCEPT                                                            :  RT
```

```
Wang VS Integrated Editor - Version  6.10.00       13:22 10/30/84   Page     2
Input File is CRES@BCP in Library CRES@SRC on Volume CRES02

000640        AT (01,03),                                               ! RT
000650 "CRES: Abbreviation/Acronym Print Subsystem        (List Specific! RT
000660 ation Screen)",                                                  ! RT
000670        AT (02,03),                                               ! RT
000680 "================================================================! RT
000690 =============",                                                  ! RT
000700 AT(04,10), FAC(HEX(8C)), WELCOME$,AT(04,25),FAC(HEX(85)),HEADER$,! RT
000710        AT (06,03),                                               ! RT
000720 "  Please place an",                                             ! RT
000730        AT (06,21), FAC(HEX(85)),    X$            , CH(01),      ! RT
000740        AT (06,23),                                               ! RT
000750 "next to the appropriate box to specify which list you",         ! RT
000760        AT (07,03),                                               ! RT
000770 "  want to print.",                                              ! RT
000780        AT (08,34),                                               ! RT
000790 "Abbreviations",                                                 ! RT
000800        AT (08,50), FAC(HEX(81)),  A$(1)         , CH(01),        ! RT
000810        AT (09,34),                                               ! RT
000820 "Acronyms",                                                      ! RT
000830        AT (09,50),  FAC(HEX(81)),        A$(2)         , CH(01), ! RT
000840        AT (10,34),                                               ! RT
000850 "Both",                                                          ! RT
000860        AT (10,50),  FAC(HEX(81)),        A$(3)         , CH(01), ! RT
000870        AT (12,13),  FAC(E$),              ER$           , CH(58),! RT
000880        AT (14,03),                                               ! RT
000890 "  Please supply the following information for the print system:"! RT
000900       ,AT (16,25),                                               ! RT
000910 "Subtitle (optional)",                                           ! RT
000920        AT (16,54),  FAC(HEX(81)),       SUBTIT1$      , CH(20),  ! RT
000930        AT (17,54),  FAC(HEX(81)),       SUBTIT2$      , CH(20),  ! RT
000940        AT (18,25),                                               ! RT
000950 "Starting abbrev/acronym",                                       ! RT
000960        AT (18,54),  FAC(HEX(81)),        START$        , CH(15), ! RT
000970        AT (19,25),                                               ! RT
000980 "Ending abbrev/acronym",                                         ! RT
000990        AT (19,54),  FAC(HEX(81)),        END$          , CH(15), ! RT
001000        AT (20,25),                                               ! RT
001010 "Lines per page",                                                ! RT
001020        AT (20,54),                       LPP%          , PIC(##),! RT
001030        AT (21,25),                                               ! RT
001040 "Print at (TERMINAL/PRINTER)",                                   ! RT
001050        AT (21,54), FAC(HEX(81)),         TOP$          , CH(08), ! RT
001060        AT (23,30),                                               ! RT
001070 "Press",                                                         ! RT
001080        AT (23,36),  FAC(HEX(85)),        ENTER$        , CH(05), ! RT
001090        AT (23,42),                                               ! RT
001100 "to continue ",                                                  ! RT
001110        AT (24,15),                                               ! RT
001120 "Press",                                                         ! RT
001130        AT (24,21),  FAC(HEX(84)),         PF16$         , CH(04),! RT
001140        AT (24,26),                                               ! RT
001150 "to return to the Glossary Maintenance Menu ",                   ! RT
001160 KEYS(BIN(16)&BIN(32)&BIN(0)),                                    ! RT
001170 ON (BIN(16)&BIN(32)) GOTO EXIT,EXIT                                RT
001180                                                                    RT
001190 ER$=" ":E$=HEX(8C):WELCOME$,HEADER$=" "                            RT
001200         IF A$(1)=" " AND A$(1)=A$(2) AND A$(3)="X" THEN 1260       RT
```

```
Wang VS Integrated Editor - Version  6.10.00       13:22 10/30/84   Page      3
Input File is CRES@BCP in Library CRES@SRC on Volume CRES02

001210        IF A$(2)=" " AND A$(2)=A$(3) AND A$(1)="X" THEN 1260       RT
001220        IF A$(3)=" " AND A$(1)=A$(3) AND A$(2)="X" THEN 1260       RT
001230         ER$= "      Please mark only one category with an 'X'"     RT
001240         E$=HEX(94)                                                 RT
001250        GOTO PRTSCREEN                                              RT
001260             IF STR(TOP$,1,1) = "P" THEN NEXT11                     RT
001270             IF STR(TOP$,1,1)<> "T" THEN TERMPR                     RT
001280 NEXT11:     IF LPP%< 51 THEN NEXT13                                RT
001290             ER$="       'Lines per page' can be at most 50."       RT
001300             E$=HEX(84)                                             RT
001310             GOTO PRTSCREEN                                         RT
001320 IOERR1:  PRINT PAGE                                                RT
001330          PRINT BELL, HEX(94); "ERROR in ABBREV/ACRONYM list."      RT
001340          FOR I=1 TO 500000 :NEXT I                                 RT
001350          CLOSE #1                                                  RT
001360          GOTO PRTSCREEN                                            RT
001370 IOERR2:  PRINT PAGE                                                RT
001380          PRINT BELL, HEX(94); "ERROR in print file."               RT
001390          FOR I=1 TO 500000 :NEXT I                                 RT
001400          CLOSE #2                                                  RT
001410          GOTO PRTSCREEN                                            RT
001420 TERMPR: E$=HEX(94)                                                 RT
001430 ER$="'Print at ' has only legal values TERMINAL or PRINTER."       RT
001440     GOTO PRTSCREEN                                                 RT
001450                                                                    RT
001460 REX: ER$="         'Starting point' comes after 'Ending point'."   RT
001470     E$=HEX(94):GOTO PRTSCREEN                                      RT
001480                                                                    RT
001490                                                                    RT
001500 NEXT13: IF START$="FIRST" OR END$="LAST" THEN FORD                 JM
001510        IF START$>END$ THEN REX                                     JM
001520                                                                    RT
001530 /* Now it's time to generate our print file name */                RT
001540                                                                    RT
001550 FORD:   DAT$= DATE                                                 JM
001560         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)      RT
001570         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)                        RT
001580                                                                    RT
001590 DISPLAY                                                          ! RT
001600        AT (01,03),                                               ! RT
001610 "CRES: Abbreviation/Acronym Glossary Print Subsystem",           ! RT
001620        AT (01,61),                                               ! RT
001630 "(Generation Screen)",                                           ! RT
001640        AT (02,03),                                               ! RT
001650 "===============================================================! RT
001660 =============",                                                  ! RT
001670         AT (12,23),                                              ! RT
001680 "Output file now being generated!"                                 RT
001690         PFILE$="ABBREV##"                                          RT
001700         I%=0                                                       RT
001710 NEXT14: CONVERT I% TO STR(PFILE$,7,2),PIC(00)                      RT
001720         I%=I%+1                                                    RT
001730         CALL "LIMITS" (PFILE$,SLIB$,SVOL$,CODE$,MSG$)              RT
001740         IF CODE$="Y" THEN NEXT14                                   RT
001750         OPEN NOGETPARM #2,OUTPUT,FILE=PFILE$,LIBRARY=SLIB$,      ! RT
001760             VOLUME=SVOL$,SPACE=8000                                RT
001770         GOSUB TTL_PGE                                              RT
```

```
Wang VS Integrated Editor - Version  6.10.00        13:22 10/30/84   Page     4
Input File is CRES@BCP in Library CRES@SRC on Volume CRES02

001780          IF START$<>"FIRST" THEN 1800                                  RT
001790          START$=" BB"                                                  RT
001800          IF END$ = "LAST" THEN END$ = ALL(HEX(FF))                     RT
001810          PAGE% = 1                                                     RT
001820          RECS% = 1                                                     RT
001830          READ #1, KEY>=START$,IOBUFF$,EOD GOTO HOME                    JM
001840          GOSUB HEADER                                                  RT
001850          IF STR(IOBUFF$,,20)>END$ THEN HOME                            RT
001860 KNOT:                                                                  RT
001870          IF A$(1)="X" AND STR(IOBUFF$,21,1)="B" THEN 1910              RT
001880          IF A$(2)="X" AND STR(IOBUFF$,21,1)="C" THEN 1910              RT
001890          IF A$(3)="X" THEN 1910                                        RT
001900          GOTO AGAN                                                     RT
001910          WRITE #2, USING IMG6,C$,STR(IOBUFF$,1,20),                  : RT
001920          STR(IOBUFF$,21,1),STR(IOBUFF$,22,55)                          RT
001930          RECS%=RECS%+1                                                 RT
001940          IF STR(IOBUFF$,77,55)=" " THEN 1970                           RT
001950          WRITE #2, USING IMG5,C$,STR(IOBUFF$,77,55)                    RT
001960          RECS%=RECS%+1                                                 RT
001970          IF STR(IOBUFF$,132,55)=" " THEN 2000                          RT
001980          WRITE #2, USING IMG5,C$,STR(IOBUFF$,132,55)                   RT
001990          RECS%=RECS%+1                                                 RT
002000          IF RECS%>LPP% THEN RECS%=1                                    RT
002010          IF RECS%=1 THEN PAGE%=PAGE%+1                                 RT
002020          IF RECS% = 1 THEN GOSUB HEADER                                RT
002030 AGAN:    READ #1, IOBUFF$,EOD GOTO HOME                                RT
002040          IF STR(IOBUFF$,,20)>END$ THEN HOME                            RT
002050          GOTO KNOT                                                     RT
002060 HOME:    WRITE #2, USING TIT, C$                                       RT
002070          WRITE #2, USING TIT, C$                                       RT
002080          WRITE #2, USING IMG8, C$                                      RT
002090          CLOSE#2                                                       RT
002100          IF STR(TOP$,1,1) ="P" THEN MESS                               RT
002110          CLOSE WS                                                      RT
002120          MSG2$ = "CANCEL Processing"                                   RT
002130          MSK$=HEX(00)                                                  RT
002140          CMSG$ = " "                                                   RT
002150         CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,       : RT
002160          SLIB$,SVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)          RT
002170          ER$ = " " :E$=HEX(8C)                                         RT
002180          IF C%<>0 OR R%<>0                                           : RT
002190          THEN ER$ = STR(CMSG$,141)                                     RT
002200          GOTO PRINTSCRN                                                RT
002210                                                                        RT
002220 MESS: ER$="File "&PFILE$&" in Library "& SLIB$ &" on "& SVOL$ &      : RT
002230  " generated.":E$=HEX(84)                                              RT
002240          GOTO PRINTSCRN                                                RT
002250                                                                        RT
002260 TTL_PGE:                                                               RT
002270         C$=HEX(8001)                                                   RT
002280         WRITE #2, USING TIT, C$                                        RT
002290         C$ = HEX(0015)                                                 RT
002300         WRITE #2, USING TIT, C$                                        RT
002310         C$ = HEX(0001)                                                 RT
002320         WRITE #2, USING TIT1, C$                                       RT
002330         WRITE #2, USING TIT2, C$                                       RT
002340         WRITE #2, USING TITO, C$,D$,T$                                 RT
```

```
002350        WRITE #2, USING TIT3, C$                                  RT
002360        WRITE #2, USING TIT2, C$                                  RT
002370        WRITE #2, USING TIT1, C$                                  RT
002380        WRITE #2, USING TIT2, C$                                  RT
002390        IF SUBTIT1$ = "                  " THEN GERRY             RT
002400        WRITE #2, USING TIT4, C$, SUBTIT1$                        RT
002410        IF SUBTIT2$<>"                   " THEN WRITE #2, USING  : RT
002420 TIT10, C$, SUBTIT2$                                              RT
002430        WRITE #2, USING TIT2, C$                                  RT
002440 GERRY:                                                           RT
002450        WRITE #2, USING TIT8, C$, START$                          RT
002460        WRITE #2, USING TIT2, C$                                  RT
002470        WRITE #2, USING TIT9, C$, END$                            RT
002480        WRITE #2, USING TIT2, C$                                  RT
002481        IF A$(1)="X" THEN OPT$="PRINT ABBREVIATIONS"
002486        IF A$(2)="X" THEN OPT$="PRINT ACRONYMS"
002488        IF A$(3)="X" THEN OPT$="PRINT BOTH"
002490        WRITE #2, USING TIT5, C$, OPT$                            RT
002500        WRITE #2, USING TIT2, C$                                  RT
002510        WRITE #2, USING TIT1, C$                                  RT
002520        RETURN                                                    RT
002530                                                                  RT
002540 HEADER:                                                          RT
002550        IF PAGE%=1 THEN FIRST                                     RT
002560        C$ = HEX(0001)                                            RT
002570        WRITE #2, USING TIT, C$                                   RT
002580 FIRST: C$ = HEX(8001)                                            RT
002590        WRITE #2, USING TIT, C$                                   RT
002600        C$ = HEX(0001)                                            RT
002610        IF SUBTIT1$ = "                   "                      ! RT
002620        THEN WRITE #2, USING IMG,C$,D$,T$,PAGE%                  ! RT
002630        ELSE GOTO FOUT                                            RT
002640        GOTO ALRITE                                               RT
002650 FOUT:  WRITE #2, USING IMG1,C$,SUBTIT1$,D$,T$,PAGE%              RT
002660        IF SUBTIT2$<>"                    "                      ! RT
002670        THEN WRITE #2, USING IMG7,C$,SUBTIT2$                     RT
002680 ALRITE:WRITE #2, USING IMG2, C$,LIB$,IVOL$                       RT
002690        WRITE #2, USING IMG3, C$                                  RT
002700        WRITE #2, USING IMG4, C$                                  RT
002710        WRITE #2, USING IMG5, C$                                  RT
002720        WRITE #2, USING IMG3, C$                                  RT
002730        RETURN                                                    RT
002740                                                                  RT
002750 TIT0:%##           !  ########                                  ! RT
002760     #####  !                                                     RT
002770 TIT: %##                                                         RT
002780 TIT1:%##           !-------------------------------------------! RT
002790 ------------!                                                    RT
002800 TIT2:%##           !                                            ! RT
002810             !                                                    RT
002820 TIT3:%##           !        ****** ABBREVIATION/ACRONYM GLOSSARY! RT
002830  *****      !                                                    RT
002840 TIT4:%##           !            TITLE OF LIST   : ##############! JM
002850 ######      !                                                    RT
002860 TIT5:%##           !            OPTION SELECTED : ##############! JM
002870 #####       !                                                    RT
002880 TIT8:%##           !            STARTING POINT  : ##############! JM
```

```
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Input File is CRES@BCP in Library CRES@SRC on Volume CRES02

002890 ######      :                                                         RT
002900 TIT9:%##          :            ENDING POINT    : ###############:     JM
002910 ######      :                                                         RT
002920 TIT10:%##         :                              ##############:      RT
002930 #######      :                                                        RT
002940 IMG:%## ########                       #####                       :  RT
002950            PAGE #####                                                 RT
002960 IMG1:%## TITLE OF LIST : ####################      ########        :  RT
002970     #####      PAGE #####                                             RT
002980 IMG7:%##                  ####################                        RT
002990 IMG2:%## Input File is ABBRELST in Library ######## on Volume ###:     RT
003000 ###                                                                   RT
003010 IMG3:%##==========================================================:   RT
003020 ===========================                                           RT
003030 IMG4:%## Abbrev/Acronym       Type   Definition                       RT
003040 IMG6:%## ####################   #    #############################:   RT
003050 ############################                                          RT
003060 IMG5:%##                             #############################:   RT
003070 ############################                                          RT
003080 IMG8:%##  ;!! END OF LISTING !!!                                      RT
003090                                                                       RT
003100 EXIT:  CLOSE #1                                                       RT
```

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Print Technical Glossary (CRESGLOP)

CRESGLOP in library CRES@SRC is the BASIC language program to print the Technical Glossary. The object language version is CRESGLOP in library CRES@SAV.

This program first allows the user to specify the name of the Technical Glossary to be printed. Then, the program enables the user to print out either only the Mandatory Technical Words that appear or the entire Technical Glossary. The glossary can be printed out in its entirety or some specified range can be printed. This printout can be displayed at the terminal or sent to the printer. An optional subtitle of up to two lines can be included for the printout, and the number of lines per page may be specified as some value less than the default value of 50.

A complete program listing follows. Appendix C contains a sample flowchart.

```
Wang VS Integrated Editor - Version  6.10.00       15:18 11/13/84   Page      1
Input File is CRESGLOP in Library CRES@SRC on Volume CRES02

000010 /*   CRES MANDATORY TECHNICAL GLOSSARY PRINT SUBSYSTEM PROGRAM */
000025 /*                                                             */
000040 /*                 AUTHORS: Rose Tank and John Mears           */
000055 /*                 Date:    October 12, 1983                   */
000070 /*                                                             */
000085
000100 /* This subsystem is not integrated with any other part of the */
000115 /* CRES subsystem. The glossaries are used exclusively for the */
000130 /* user's reference. The following code allows any portion of  */
000145 /* the mandatory technical glossary to be printed for easy     */
000160 /* viewing.                                                    */
000175 /*                                                             */
000190 /* Record format for the mandatory technical glossary:         */
000205 /*     columns                    contents                     */
000220 /*     1-20            word                                    */
000235 /*     21-28           technical word list in which the word   */
000250 /*                       is presently residing (optional)      */
000265 /*     29-83           definition line 1                       */
000280 /*     84-138          definition line 2                       */
000295 /*     139-193         definition line 3                       */
000310 /*     194-196         protection ID                           */
000325 /*     197-200         filler                                  */
000340 /*                                                             */
000355 /* NOTE: Each of the definition lines consist of a 55 char.    */
000370 /*       buffer.                                               */
000385
000400
000415
000430 DIM CODE$1,IOBUFF$215,FILE$8,LIB$8,IVOL$6,ER$58,TOP$8,START$20
000445 DIM END$20,HEADER$40,SUBTIT1$20,SUBTIT2$20
000460 DIM ENTER$5,PF15$4,PF16$4,X$1,RLIB$8,RVOL$6                           RT
000475 DIM MSG$53,CMSG$255,MSG2$40,SLIB$8,SVOL$6,OPT$20
000490
000505 ENTER$="ENTER":PF15$="PF15":PF16$="PF16"
000520 E$=HEX(8C):X$="X"                                                     RT
000535 WELCOME$="Welcome to the "
000550 HEADER$      ="CRES GLOSSARY PRINT SUBSYSTEM"
000552 CALL "EXTRACT" ADDR("IL",LIB$,"IV",IVOL$,"SL",SLIB$,"SV",SVOL$,  !
000554   "RL",RLIB$,"RV",RVOL$)
000565 FILE$="GLOSSARY"
000580
000595 SELECT #1,"GLOSSY",VARC,INDEXED,RECSIZE=215,KEYPOS=1,KEYLEN=20,  !
000610          IOERR GOTO IOERR1
000625
000640 SELECT #2,"PRTFILE",PRINTER,RECSIZE=120, IOERR GOTO IOERR2
000655
000670      OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,      !
000685      VOLUME = IVOL$
000700
000715 /* This screen allows you to choose the range of words, the      */
000730 /* number of lines per page, and the destination of the output  */
000745 /* (terminal/printer).                                           */
000760
000775 PRINTSCRN:                       /* The following are the defaults*/
000790 START$         ="FIRST"          /* for the print screen          */
000805 END$           ="LAST"
000820 LPP%=50
```

```
Wang VS Integrated Editor - Version  6.10.00       15:18 11/13/84   Page     2
Input File is CRESGLOP in Library CRES@SRC on Volume CRES02

000835 TOP$="TERMINAL"
000850 SUBTIT1$, SUBTIT2$ =" "
000865
000880 PRTSCREEN:
000895 ACCEPT                                                           :
000910         AT (01,03),                                              :
000925 "CRES: Glossary Print Subsystem",                                : RT
000940         AT (01,66),                                              :
000955 "(Print Screen)",                                                :
000970         AT (02,03),                                              :
000985 "================================================================:
001000 =============",                                                  :
001006 AT(04,15), FAC(HEX(8C)), WELCOME$,AT(04,30),FAC(HEX(85)),HEADER$,: RT
001015         AT (06,02),                                              : RT
001030 "  Please place an",                                             : RT
001045         AT (06,20), FAC(HEX(85)),   X$             , CH(01),     : RT
001060         AT (06,22),                                              : RT
001075 "in the box below, if you want to print only the mandatory",     : RT
001090         AT (07,02),                                              : RT
001105 "  technical words that appear in the glossary.",                : RT
001120         AT (09,25),                                              : RT
001135 "Mandatory Technical Word",                                      : RT
001150         AT (09,52), FAC(HEX(81)),  A$        , CH(01),           : RT
001165         AT (11,13),  FAC(E$),             ER$           , CH(58),: RT
001180         AT (13,02),                                              : RT
001195 "  Please supply the following information for the print system:": RT
001210       ,AT (15,25),                                               : RT
001225 "Subtitle (optional)",                                           : RT
001240         AT (15,54),  FAC(HEX(81)),      SUBTIT1$       , CH(20), : RT
001255         AT (16,54),  FAC(HEX(81)),      SUBTIT2$       , CH(20), : RT
001270         AT (18,25),                                              : RT
001285 "Starting word          ",                                       : RT
001300         AT (18,54),  FAC(HEX(81)),       START$        , CH(15), : RT
001315         AT (19,25),                                              : RT
001330 "Ending word           ",                                        : RT
001345         AT (19,54),  FAC(HEX(81)),       END$          , CH(15), : RT
001360         AT (20,25),                                              : RT
001375 "Lines per page",                                                : RT
001390         AT (20,54),                      LPP%          , PIC(##),: RT
001405         AT (21,25),                                              : RT
001420 "Print at (TERMINAL/PRINTER)",                                   : RT
001435         AT (21,54), FAC(HEX(81)),        TOP$          , CH(08), : RT
001450         AT (23,30),                                              : RT
001465 "Press",                                                         : RT
001480         AT (23,36),  FAC(HEX(85)),       ENTER$        , CH(05), : RT
001495         AT (23,42),                                              : RT
001510 "to continue ",                                                  : RT
001525         AT (24,15),                                              : RT
001540 "Press",                                                         : RT
001555         AT (24,21),  FAC(HEX(84)),        PF16$         , CH(04),: RT
001570         AT (24,26),                                              : RT
001585 "to return to the Glossary Maintenance Menu ",                   : RT
001630 KEYS(BIN(0)&BIN(16)&BIN(32)),                                    :
001645 ON (BIN(16)&BIN(32)) GOTO EXIT,EXIT
001660
001675 ER$=" ":E$=HEX(8C):WELCOME$,HEADER$=" "
001690
```

```
Wang VS Integrated Editor - Version  6.10.00       15:18 11/13/84   Page      3
Input File is CRESGLOP in Library CRES@SRC on Volume CRES02

001705 /* Before leaving this screen, be sure all values input are      */ JM
001720 /* legal entries.                                                 */ JM
001722        IF POS(" X"=A$)>0 THEN 1735                                 RT
001724        ER$=" Please only use 'X' to specify the mandatory words."  RT
001726        E$=HEX(94)                                                  RT
001727        GOTO PRTSCREEN                                              RT
001728                                                                    RT
001735        IF STR(TOP$,1,1) = "P" OR STR(TOP$,,1)= "T" THEN LINESCK
001750        E$=HEX(94)
001765        ER$="'Print at ' has only legal values TERMINAL or PRINTER."
001780        GOTO PRTSCREEN
001795 LINESCK: IF LPP% < 51 THEN RANGECK
001810           ER$="       'Lines per page' can be at most 50."
001825           E$=HEX(84)
001840           GOTO PRTSCREEN
001855
001870 REX: ER$="          'Starting word' comes after 'Ending word'."
001885      E$=HEX(94):GOTO PRTSCREEN
001900 RANGECK: IF START$="FIRST" OR END$="LAST" THEN FORD                JM
001915            IF START$>END$ THEN REX                                 JM
001930
001945 /* Now it's time to generate our print file name */
001960
001975 FORD:   DAT$= DATE                                                 JM
001990           D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)
002005           T$= STR(TIME,1,2)&":"&STR(TIME,3,2)
002020
002035 /* The use of this short screen is just to let the user know the*/
002050 /* output file is being generated.                              */
002065 DISPLAY                                                          !
002080          AT (01,03),                                             !
002095 "CRES: Glossary Print Subsystem",                                ! RT
002110          AT (01,61),                                             !
002125 "(Generation Screen)",          ,                                !
002140          AT (02,03),                                             !
002155 "============================================================!
002170 =============",                                                  !
002185           AT (12,23),                                            !
002200 "Output file now being generated!"
002215
002230 /* Create an new output file for this run */
002245           PFILE$="GLOSSY##"                                        RT
002260           I%=0
002275 NEXT14: CONVERT I% TO STR(PFILE$,7,2),PIC(00)
002290           I%=I%+1
002305           CALL "LIMITS" (PFILE$,SLIB$,SVOL$,CODE$,MSG$)
002320           IF CODE$="Y" THEN NEXT14
002335           OPEN NOGETPARM #2,OUTPUT,FILE=PFILE$,LIBRARY=SLIB$,      !
002350               VOLUME=SVOL$,SPACE=8000
002365
002425           GOSUB TTL_PGE
002440           IF START$<>"FIRST" THEN 2500                             RT
002455           START$=" N"                    /* Recall the first value in */
002470                                          /* file is ' Mandatory Techni*/
002485                                          /* cal Glossary'             */
002500           IF END$ = "LAST" THEN END$ = ALL(HEX(FF))
002515           PAGE%=0: RECS% = 1
```

```
Wang VS Integrated Editor - Version  6.10.00       15:18 11/13/84    Page      4
Input File is CRESGLOP in Library CRES@SRC on Volume CRES02

002530          READ #1, KEY>=START$,IOBUFF$,EOD GOTO HOME                      JM
002545          GOSUB HEADER
002560          IF STR(IOBUFF$,,20)>END$ THEN HOME
002575 KNOT:
002576          IF A$=" " THEN 2590                                             RT
002577          IF A$="X" AND STR(IOBUFF$,210,1)="*" THEN 2590                  RT
002579          GOTO AGAN                                                       RT
002590          WRITE #2, USING IMG6,C$,STR(IOBUFF$,1,20),                    !
002605             STR(IOBUFF$,210,1),STR(IOBUFF$,21,8),STR(IOBUFF$,45,55)
002620          RECS%=RECS%+1
002635          /* Only print the definition lines that are nonblank */
002650      IF STR(IOBUFF$,29,8)=" " AND STR(IOBUFF$,100,55)=" " THEN 2710 RT
002665          WRITE #2, USING IMG5,C$,STR(IOBUFF$,29,8),                    !
002680                                  STR(IOBUFF$,100,55)
002695          RECS%=RECS%+1
002710      IF STR(IOBUFF$,37,8)=" " AND STR(IOBUFF$,155,55)=" " THEN 2755 RT
002725          WRITE #2, USING IMG5,C$,STR(IOBUFF$,37,8),                    !
002740                                  STR(IOBUFF$,155,55)
002755          RECS%=RECS%+1
002770          IF RECS%>LPP% THEN RECS%=1
002785          IF RECS% = 1 THEN GOSUB HEADER
002800 AGAN:    READ #1, IOBUFF$,EOD GOTO HOME
002815          IF STR(IOBUFF$,,20)>END$ THEN HOME
002830          GOTO KNOT
002845 HOME:    WRITE #2, USING TIT, C$
002860          WRITE #2, USING TIT, C$
002875          WRITE #2, USING IMG8, C$
002890          CLOSE#2
002905          IF STR(TOP$,1,1) ="P" THEN MESS  /* If the printer was */
002920          CLOSE WS                         /* chosen for output  */  JM
002935          MSG2$ = "CANCEL Processing"      /* then notify user of*/
002950          MSK$=HEX(00)                     /* output file Id     */
002965          CMSG$ = " "                  /* otherwise link to DISPLAY  */
002980         CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,      !
002995          SLIB$,SVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)
003010          ER$ = " " :E$=HEX(8C)
003025          IF C%<>0 OR R%<>0                                            !
003040          THEN ER$ = STR(CMSG$,141)
003055          GOTO PRINTSCRN
003070
003085 MESS: ER$="File "&PFILE$&" in Library "& SLIB$ &" on "& SVOL$ &  !
003100  " generated.":E$=HEX(84)
003115          GOTO PRINTSCRN
003130
003145 /* Print the title page with subtitles supplied, starting words,*/ JM
003160 /* and ending words.                                             */ JM
003175 TTL_PGE:
003190         WRITE #2, USING TIT, HEX(8001)
003205         WRITE #2, USING TIT, HEX(0015)
003220         C$ = HEX(0001)
003235         WRITE #2, USING TIT1, C$
003250         WRITE #2, USING TIT2, C$
003265         WRITE #2, USING TIT0, C$,D$,T$
003280         WRITE #2, USING TIT3, C$
003295         WRITE #2, USING TIT2, C$
003310         WRITE #2, USING TIT1, C$
003325         WRITE #2, USING TIT2, C$
```

```
Wang VS Integrated Editor - Version  6.10.00       15:18 11/13/84   Page      5
Input File is CRESGLOP in Library CRES@SRC on Volume CRES02

003340        IF SUBTIT1$ = "                    " THEN GERRY
003355        WRITE #2, USING TIT4, C$, SUBTIT1$
003370        IF SUBTIT2$<>"                    " THEN WRITE #2, USING  !
003385 TIT10, C$, SUBTIT2$
003400        WRITE #2, USING TIT2, C$
003415 GERRY:
003430        WRITE #2, USING TIT8, C$, START$
003445        WRITE #2, USING TIT2, C$
003460        WRITE #2, USING TIT9, C$, END$
003475        WRITE #2, USING TIT2, C$
003476        IF A$="X" THEN OPT$="MAND TECH WORDS ONLY" ELSE OPT$="ALL"
003480        WRITE #2, USING TIT5, C$, OPT$
003485        WRITE #2, USING TIT2, C$
003490        WRITE #2, USING TIT1, C$
003505        RETURN
003565 HEADER:
003580        PAGE%=PAGE%+1                                             RT
003595        IF PAGE%=1 THEN FIRST
003610        WRITE #2, USING TIT, C$
003625 FIRST: WRITE #2, USING TIT, HEX(8001)
003640        IF SUBTIT1$<>" " THEN FOUT
003655        WRITE #2, USING IMG,C$,D$,T$,PAGE%
003670        GOTO ALRITE
003685 FOUT:  WRITE #2, USING IMG1,C$,SUBTIT1$,D$,T$,PAGE%
003700        IF SUBTIT2$<>"  " THEN WRITE #2, USING IMG7,C$,SUBTIT2$
003715 ALRITE:WRITE #2, USING IMG2, C$, LIB$, IVOL$
003730        WRITE #2, USING IMG3, C$
003745        WRITE #2, USING IMG4, C$
003760        WRITE #2, USING IMG5, C$
003775        WRITE #2, USING IMG3, C$
003790        RETURN
003805
003820 TIT0:%##          !   ########                                  !
003835     #####   !
003850 TIT: %##
003865 TIT1:%##          !----------------------------------------------!
003880 ------------!
003895 TIT2:%##          !                                              !
003910             !
003925 TIT3:%##          !          ******       CRES GLOSSARY         *!
003940 *****       !
003955 TIT4:%##          !               TITLE OF LIST  : ##############! JM
003970 ######      !
003972 TIT5:%##          !               OPTION         : ##############! JM
003974 ######      !
003985 TIT8:%##          !               STARTING POINT : ##############! JM
004000 ######      !
004015 TIT9:%##          !               ENDING POINT   : ##############! JM
004030 ######      !
004045 TIT10:%##          !                                #############!
004060 #######      !
004075 IMG:%## ########                  #####                      !
004090                               PAGE #####                         RT
004105 IMG1:%## TITLE OF LIST : ####################      ########      !
004120                    #####      PAGE #####                         RT
004135 IMG7:%##                 ####################
004150 IMG2:%## Input File is GLOSSARY in Library ######## on Volume ###!
```

```
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Input File is CRESGLOP in Library CRES@SRC on Volume CRES02

004165 ###
004180 IMG3:%##=========================================================!
004195 ============================================                        RT
004210 IMG4:%## Word                 Mand Tech   File       Definition    RT
004225 IMG6:%## ####################     #       ########   ###########!  RT
004240 ############################################                        RT
004255 IMG5:%##                                  #########  ###########!  RT
004270 ############################################                        RT
004285 IMG8:%##  !!! END OF LISTING !!!
004300
004315 IOERR1:  PRINT PAGE
004330          PRINT BELL, HEX(94); "ERROR in GLOSSARY list."                JM
004345          FOR I=1 TO 500000 :NEXT I
004360          CLOSE #1
004375          GOTO PRTSCREEN
004390 IOERR2:  PRINT PAGE
004405          PRINT BELL, HEX(94); "ERROR in print file."
004420          FOR I=1 TO 500000 :NEXT I
004435          CLOSE #2
004450          GOTO PRTSCREEN
004465 EXIT:  CLOSE #1
```

ROOT WORD EXPANSION SUBSYSTEM

Root Word Expansion (CRES@ERW)

CRES@ERW in library CRES@SRC is the BASIC language program to perform the CRES root word expansions and merge the expanded forms into the CRES word lists. The object language version is CRES@ERW in library CRES@SAV.

In the CRES system, a root word is defined as the simplest form of a word, that form which cannot be reduced any further; i.e., the singular, present tense word for nouns, verbs and adjectives. Most other parts of speech have only one form, which is considered the root word. If the root word form of a word appears on one of the CRES word lists, it is usually desirable to have at least the more common expanded forms of that word included as well. This system will expedite these expansions. For the more common parts of speech, (nouns, verbs, and noun/verbs), the program automatically supplies suggested suffixes to form the plurals and past participles. The user has the option of eliminating any of the automatically formed expansions or correcting their spellings. In addition, up to 20 different forms of the root word may be generated by the user. After all expansions have been specified, the program will present them to the user, one at a time, for the part of speech and other attributes to be entered for each.

When the root word expansion is complete, the user can display the expansions on the terminal, print out a hard copy, and/or permanently merge the expansions into one of the CRES word lists. The program also allows the user to return and modify, delete from, or add to the expansions already specified. The list of expansions is contained in a work file, which may be retained on disk or deleted if no longer required.

Figure 3 presents a flowchart of the root word expansion program. A complete listing follows.

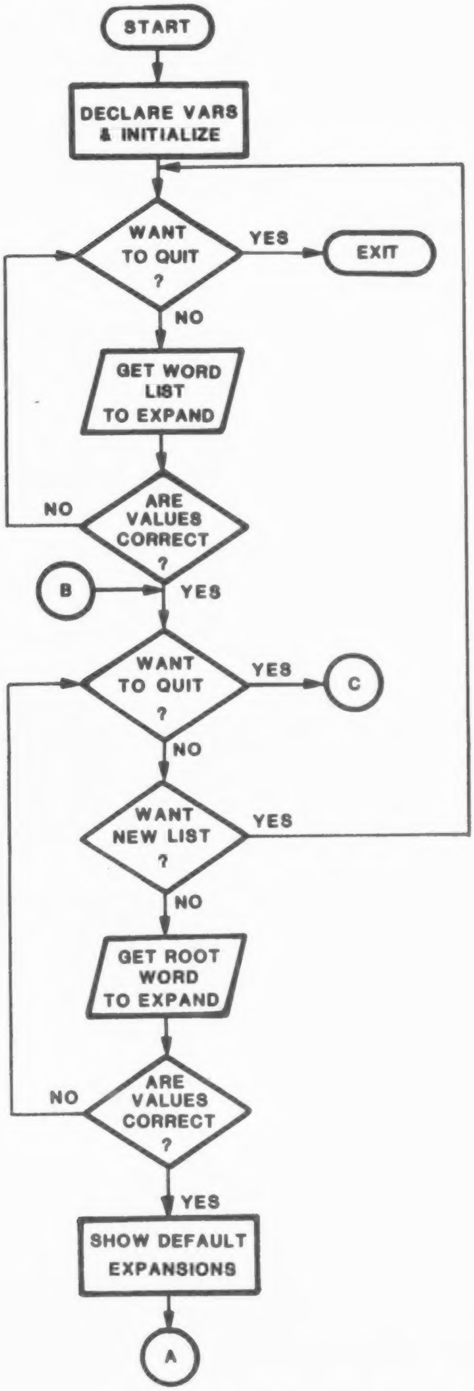
START
DECLARE VARS & INITIALIZE
WANT TO QUIT ?
YES
EXIT
NO
GET WORD LIST TO EXPAND
ARE VALUES CORRECT ?
NO
YES
B
WANT TO QUIT ?
YES
C
NO
WANT NEW LIST ?
YES
NO
GET ROOT WORD TO EXPAND
ARE VALUES CORRECT ?
NO
YES
SHOW DEFAULT EXPANSIONS
A

Figure 3. CRES Root Word Expansion Flowchart.

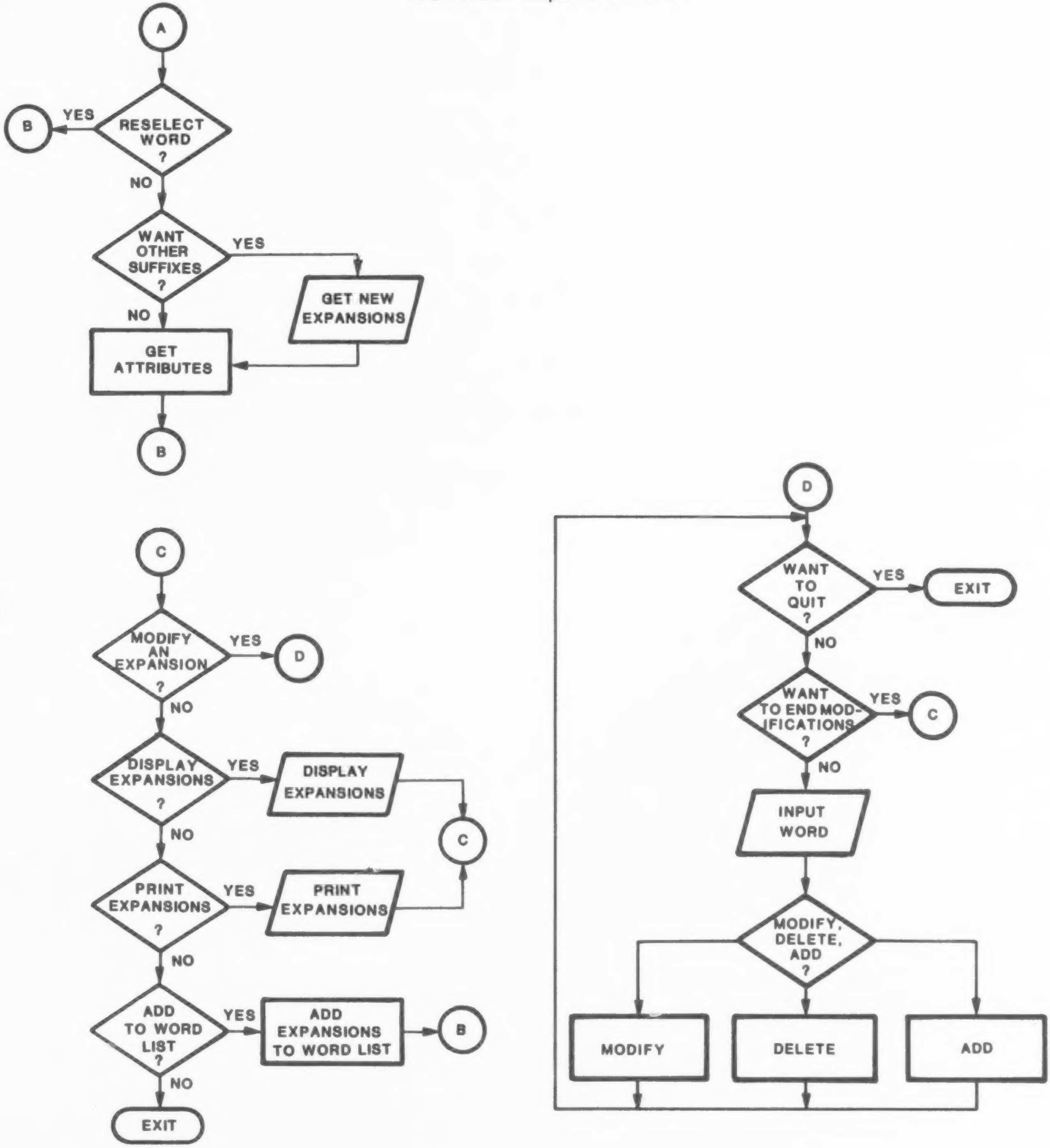
A
RESELECT WORD ?
YES
B
NO
WANT OTHER SUFFIXES ?
YES
GET NEW EXPANSIONS
NO
GET ATTRIBUTES
B
C
MODIFY AN EXPANSION ?
YES
D
NO
DISPLAY EXPANSIONS ?
YES
DISPLAY EXPANSIONS
C
NO
PRINT EXPANSIONS ?
YES
PRINT EXPANSIONS
NO
ADD TO WORD LIST ?
YES
ADD EXPANSIONS TO WORD LIST
B
NO
EXIT
D
WANT TO QUIT ?
YES
EXIT
NO
WANT TO END MODIFICATIONS ?
YES
C
NO
INPUT WORD
MODIFY, DELETE, ADD ?
MODIFY
DELETE
ADD

Figure 3 (Continued).

```
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Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

000010 /*                                                            */  RT
000015 /*             PROGRAM   CRES ROOT WORD EXPANSION SUBSYSTEM   */  RT
000020 /*             AUTHOR    ROSE TANK                            */  RT
000025 /*             DATE      FEBRUARY 9, 1984                     */  RT
000030 /*                                                            */  RT
000035                                                                   RT
000040 DIM FILE$8,LIB$8,VOL$6,DFIL$8,DLIB$8,DVOL$6,PFILE$8,BUFF$         RT
000045 DIM OPEN%(3),ROOTWD$20,PRTOSPC$1,EXPAND$(20)20,WORD$20,PPART$1    RT
000050 DIM NEG$1,TOBE$1,ROOT$1,MTW$1,IOBUFF$40,A$(14)10,SLIB$8,SVOL$6    RT
000055 DIM HEADER$34,ITLE1$6,ITLE2$11,ENTER$5,PF1$3,PF2$3,PF15$4,PF16$4  JM
000060 DIM ITLE3$18,ITLE4$14,RTOEXP$10,MAND$24,ITLE5$14,ITLE6$10         JM
000065 DIM P$(13)3,EXP$9,PFKEY$6,PF$2,OPERATION$27,SUB1$20,SUB2$20,CODE$1 RT
000070 DIM ER$71,E$1,E$(20)1,ER1$65,E1$1,F$1,L$1,V$1,CMSG$255,MSK$2      RT
000071 DIM RLIB$8,RVOL$6,PASSWORD$9                                      JM
000075                                                                   RT
000080 F1$=HEX(A014A001A001A001A0010001A001A001000100030009)             RT
000085 HEADER$        ="CRES ROOT WORD EXPANSION SUBSYSTEM"              RT
000090 FILE$          ="CMNWDLST"                                        RT
000091 CALL "EXTRACT" ADDR("IL",LIB$,"IV",VOL$,"SL",SLIB$,"SV",SVOL$,   :
000093      "RL",RLIB$,"RV",RVOL$)
000105 ENTER$         ="ENTER"                                           RT
000110 PF16$          ="PF16"                                            RT
000115 ITLE1$        ="COMMON"                                           JM
000120 ITLE2$        ="LESS COMMON"                                      JM
000125 ENTER$         ="ENTER"                                           RT
000130 PF1$           ="PF1"                                             RT
000135 PF2$           ="PF2"                                             RT
000140 PF15$          ="PF15"                                            RT
000145 ITLE5$        ="PART OF SPEECH"                                   JM
000150 ITLE6$        ="DEFINITION"                                       JM
000155 P$(1)="(J)":P$(2)="(j)":P$(3)="(A)":P$(4)="(a)":P$(5)="(B)"       RT
000160 P$(6)="(C)":P$(7)="(I)":P$(8)="(N)":P$(9)="(n)":P$(10)="(P)"      RT
000165 P$(11)="(O)":P$(12)="(V)":P$(13)="(d)"                            RT
000170 EXP$="expansion"                                                  RT
000175 PFKEY$         ="PF-Key"                                          RT
000180 PF$            ="PF"                                              RT
000185 OPERATION$     ="          OPERATION          "                   RT
000190 A1$ ="1": A2$ ="2": A3$ ="3": A15$="15": A16$="16"                RT
000195 A$(1)= "adjective"                                                RT
000200 A$(2)= "verb"                                                     RT
000205 A$(3)= "conjunct'n"                                               RT
000210 A$(4)= "adj/verb"                                                 RT
000215 A$(5)= "noun"                                                     RT
000220 A$(6)= "pronoun"                                                  RT
000225 A$(7)= "interject"                                                RT
000230 A$(8)= "noun/verb"                                                RT
000235 A$(9)= "adverb"                                                   RT
000240 A$(10)="preposit"                                                 RT
000245 A$(11)="article"                                                  RT
000250 A$(12)="adv/verb"                                                 RT
000255 A$(13)="noun/adj"                                                 RT
000260                                                                   RT
000265 SELECT #1, "WORDLIST", VARC, INDEXED, RECSIZE=40, KEYPOS=1,     : RT
000270            KEYLEN=20, IOERR GOTO IOERR1                           RT
000275 SELECT #2, "WDEXPAND", VARC, INDEXED, RECSIZE=40, KEYPOS=1,     : RT
000280            KEYLEN=20, IOERR GOTO IOERR2                           RT
000285 SELECT #3, "PRINTFIL", PRINTER, RECSIZE=80, IOERR GOTO IOERR3     RT
```

```
000290                                                                   RT
000295 SCREEN1: ER$=" ":F$,L$,V$ =HEX(81): E$=HEX(8C)                    RT
000300 FILMNU:                                                           RT
000305 ACCEPT                                                          ! RT
000310         AT (01,03),                                             ! RT
000315 "CRES: Root Word Expansion Subsystem                  (File Sele! RT
000320 ction Screen)",                                                 ! RT
000325         AT (02,03),                                             ! RT
000330 "===============================================================! RT
000335 =============",                                                 ! RT
000340         AT (04,20),                                             ! RT
000345 "Welcome to",                                                   ! RT
000350         AT (04,31), FAC(HEX(85)), HEADER$, CH(34),              ! RT
000355         AT (06,03),                                             ! RT
000360 "    This system allows the expansion of root words to be entered! RT
000365  into an",                                                      ! RT
000370         AT (07,03),                                             ! RT
000375 " existing word list with pre-defined or user-defined suffixes. ! RT
000380 For the",                                                       ! RT
000385         AT (08,03),                                             ! RT
000390 " root words that are defined as the more common parts of speech ! RT
000395 (noun,verbs,",                                                  ! RT
000400         AT (09,03),                                             ! RT
000405 " noun/verbs), this program will supply suggested suffixes.  For ! RT
000410 the other",                                                     ! RT
000415         AT (10,03),                                             ! RT
000420 " root words, you may enter up to 20 user-defined suffixes.",   ! RT
000425         AT (12,04),                                             ! RT
000430 "Please specify the word list in which you want to place the root! RT
000435  word",                                                         ! RT
000440         AT (13,04),                                             ! RT
000445 "expansions, if these defaults are not satisfactory.",          ! RT
000450         AT (16,33),                                             ! RT
000455 "File    =",                                                    ! RT
000460         AT (16,43),FAC(F$),FILE$  , CH(08),                     ! RT
000465         AT (17,33),                                             ! RT
000470 "Library =",                                                    ! RT
000475         AT (17,43),FAC(L$),LIB$   , CH(08),                     ! RT
000480         AT (18,33),                                             ! RT
000485 "Volume  =",                                                    ! RT
000490         AT (18,43),FAC(V$),VOL$   , CH(06),                     ! RT
000495         AT (20,19),FAC(E$),ER$    , CH(46),                     ! RT
000500         AT (23,11),                                             ! RT
000505 "Press",                                                        ! RT
000510         AT (23,17),FAC(HEX(85)),ENTER$  , CH(05),               ! RT
000515         AT (23,23),                                             ! RT
000520 "to continue or",                                               ! RT
000525         AT (23,38),FAC(HEX(84)),PF16$   , CH(04),               ! RT
000530         AT (23,43),                                             ! RT
000535 "to return to the Master Menu",                                 ! RT
000540 KEYS(BIN(0)&BIN(16)&BIN(32)),                                   ! RT
000545 ON (BIN(16)&BIN(32)) GOTO EXIT,EXIT                               RT
000550                                                                   RT
000555 ER$=" ": E$=HEX(8C)                                               RT
000560 /* SEE IF THE SPECIFIED FILE EXISTS                         */    RT
000565 /* Y- the file exists and the program may continue          */    JM
000570 /* N- the file doesn't currently exist; you may create one  */    JM
```

```
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Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

000575 /* V- the volume supplied doesn't exist or is not mounted    */    RT
000580 /* L- the library supplied doesn't exist in the volume given */    RT
000585 /* E- there is an I/O error in the file specified            */    RT
000590                                                                    RT
000595 ER$="File not found in Library/Volume."                            RT
000600 CALL "LIMITS"(FILE$,LIB$,VOL$,CODE$,ER$)                           RT
000605 IF CODE$="Y" THEN RECCK                                            RT
000610 IF CODE$="N" THEN GOSUB'7(ER$,HEX(91),HEX(81),HEX(81))             RT
000615 IF CODE$="V" THEN GOSUB'7(STR(ER$,3),HEX(81),HEX(81),HEX(91))      RT
000620 IF CODE$="L" THEN GOSUB'7(STR(ER$,3),HEX(81),HEX(91),HEX(81))      RT
000625 IF CODE$="E" THEN GOSUB'7(STR(ER$,3),HEX(81),HEX(81),HEX(81))      RT
000630 GOTO FILMNU                                                        RT
000635 IOERR1:  PRINT PAGE                                                RT
000640          PRINT HEX(94),"Error occurred on file "; FILE$            RT
000645          PRINT HEX(94),"Error code = "; FS(#1)                     RT
000650          STOP "Touch ENTER to return to menu.":CLOSE #1            RT
000655          OPEN%(1)=0: GOTO FILMNU                                   RT
000660                                                                    RT
000665 IOERR2:  PRINT PAGE                                                RT
000670          PRINT HEX(94),"Error occurred on file "; FIL$             RT
000675          PRINT HEX(94),"Error code = "; FS(#2)                     RT
000680          STOP "Touch ENTER to return to menu." :CLOSE #2           RT
000685          OPEN%(2)=0: GOTO FILMNU                                   RT
000690                                                                    RT
000695 IOERR3:  PRINT PAGE                                                RT
000700          PRINT HEX(94),"Error occurred on print file "; FIL$       RT
000705          PRINT HEX(94),"Error code = "; FS(#3)                     RT
000710          STOP "Touch ENTER to return to menu." :CLOSE #3           RT
000715          OPEN%(3)=0: GOTO FILMNU                                   RT
000720                                                                    RT
000725                                                                    RT
000730 RECCK: CALL "READFDR" ADDR(FILE$,LIB$,VOL$,0%,"RS",RSIZ%,RET%)     RT
000735      IF RSIZ%=40 THEN OK                                           RT
000740      E$=HEX(94)                                                    RT
000745      ER$= "File type is wrong - please respecify."                 RT
000750      GOTO FILMNU                                                   RT
000755                                                                    RT
000760 OK:/* Create a new data file for expansions. */                    RT
000765 IF FLAG=1 THEN 835                                                 RT
000770 DFIL$="ROOT##": DLIB$=LIB$      :DVOL$=VOL$     :I%=0              RT
000775 C: CONVERT I% TO STR(DFIL$,5,2), PIC(00)                           RT
000780      CALL "LIMITS"(DFIL$,DLIB$,DVOL$,RC$)                          RT
000785      I%=I%+1                                                       RT
000790      IF RC$="Y" THEN C                                             RT
000795   IF OPEN%(2)=1 THEN CLOSE #2                                      RT
000800   OPEN NOGETPARM #2, OUTPUT, FILE=DFIL$, LIBRARY=DLIB$,          ! RT
000805        VOLUME=DVOL$,SPACE=100                                      RT
000810   CLOSE #2                                                         RT
000815   OPEN NOGETPARM #2, IO, SPACE=100, FILE=DFIL$, LIBRARY=DLIB$,   ! RT
000820        VOLUME=DVOL$                                                RT
000825   OPEN%(2)=1                                                       RT
000830                                                                    RT
000835      IF OPEN%(1)=1 THEN CLOSE #1                                   RT
000840      OPEN NOGETPARM #1,SHARED, FILE= FILE$, LIBRARY = LIB$,      ! RT
000845      VOLUME = VOL$                                                 RT
000850      OPEN%(1)=1                                                    RT
000855                                                                    RT
```

```
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Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

000860 READ #1,IOBUFF$                                                     RT
000865 IF IOBUFF$=" COMMON WORDS" THEN 875                                 RT
000870   MAND$="Mandatory Technical Word": M$=HEX(81):GOTO 885             RT
000875   MAND$=" ": M$=HEX(8D)                                             RT
000880                                                                     RT
000885   IOBUFF$=" "  :E1$=HEX(8C):ER1$=" "                                RT
000890 SCREEN2: ER$,PRTOSPC$,ROOTWD$=" " : EXPAND$()=" ": E$()=HEX(81)     RT
000895          E$=HEX(8C)                                                 RT
000897 PASSWORD$=HEX(00010F10111F20)                                       JM
000900 WDSELT: WDNO%=0                                                     JM
000905 ACCEPT                                                          ! RT
000910        AT (01,03),                                              ! RT
000915 "CRES: Root Word Expansion Subsystem              (Word Specific! RT
000920 ation Screen)",                                                 ! RT
000925        AT (02,03),                                              ! RT
000930 "===============================================================! RT
000935 =============",                                                 ! RT
000940        AT (04,02),                                              ! JM
000945 " Please enter a root word and select, by letter, its correspondi! RT
000950 ng part of",                                                    ! RT
000955        AT (05,03),                                              ! RT
000960 "speech as listed in either the common or less common category.",! RT
000965        AT (07,26),                                              ! RT
000970 "Root word =",                                                  ! RT
000975        AT (07,39), ROOTWD$       , CH(20),                      ! RT
000980        AT (08,26),                                              ! RT
000985 "Part of Speech",                                               ! RT
000990        AT (08,41),FAC(HEX(80)),        PRTOSPC$       , CH(01), ! RT
000995        AT (09,08), FAC(E$),          ER$    , CH(65),           ! JM
001000        AT (10,21),FAC(HEX(AD)), ITLE1$       , CH(06),          ! JM
001005        AT (10,55),FAC(HEX(AD)), ITLE2$       , CH(11),          ! JM
001010        AT (11,18),                                              ! JM
001015 "N =Noun                          a =Article",                  ! RT
001020        AT (12,18),           ,                                  ! JM
001025 "V =Verb                          I =Interjection",             ! RT
001030        AT (13,18),                                              ! JM
001035 "n =Noun/verb                     J =Adjective",                ! RT
001040        AT (14,52),                                              ! JM
001045 "C =Conjunction",                                               ! RT
001050        AT (15,52),                                              ! JM
001055 "P =Preposition",                                               ! RT
001060        AT (16,52),                                              ! JM
001065 "a =Adverb/verb",                                               ! RT
001070        AT (17,52),                                              ! JM
001075 "A =Adverb",                                                    ! RT
001080        AT (18,52),                                              ! JM
001085 "j =Adjective/verb",                                            ! RT
001090        AT (19,52),                                              ! JM
001095 "d =Noun/adjective",                                            ! RT
001100        AT (21,30),                                              ! RT
001105 "Press",                                                        ! RT
001110        AT (21,36), FAC(HEX(85)),      ENTER$        , CH(05),   ! RT
001115        AT (21,42),                                              ! RT
001120 "to continue",                                                  ! RT
001125        AT (22,13),                                              ! RT
001130 "Press",                                                        ! RT
001135        AT (22,19), FAC(HEX(84)),      PF1$          , CH(03),   ! RT
```

```
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Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

001140         AT (22,23),                                              ! RT
001145 "to view the definitions of the parts of speech",                ! RT
001150         AT (23,17),                                              ! RT
001155 "Press",                                                         ! RT
001160         AT (23,23),FAC(HEX(84)),         PF15$          , CH(04),  ! RT
001165         AT (23,28),                                              ! RT
001170 "to return to the List Selection Screen",                        ! RT
001175         AT (24,28),                                              ! RT
001180 "Press",                                                         ! RT
001185         AT (24,34),FAC(HEX(84)),         PF16$          , CH(04),  ! RT
001190         AT (24,39),                                              ! RT
001195 "to end expansions",                                             ! RT
001200 KEYS(PASSWORD$),                                                 ! JM
001205              KEY(OPTION),                                        ! JM
001210 ON(BIN(15)&BIN(31)&BIN(16)&BIN(32)) GOTO BLANKF,BLANKF,          ! RT
001215                                  PRINT_SCREEN_INIT,PRINT_SCREEN_INIT  RT
001220 IF OPTION<>1 AND OPTION<>17 THEN 1235                              RT
001225    GOSUB DEFN: GOTO WDSELT                                         RT
001230                                                                    RT
001235 ER$=" ":E$=HEX(8C):E$()=HEX(81):WDNO%=0                            RT
001240 IF OPTION=2 OR OPTION=18 THEN UNCOMON                              RT
001245 FOR I= 1 TO LEN(ROOTWD$)                                           RT
001250   IF POS("ABCDEFGHIJKLMNOPQRSTUVWXYZ'-"=STR(ROOTWD$,I,1))>0      ! JM
001255      THEN 1270                                                     RT
001260  ER$="Illegal character was found in the root word-please reenter" RT
001265  E$=HEX(94): GOTO WDSELT                                           RT
001270 NEXT I                                                             RT
001275                                                                    RT
001280 K= POS("NVnABCIJPajd"=PRTOSPC$)                                    RT
001285 IF K<>0 THEN 1300                                                  RT
001290 ER$="Part of speech is invalid - please respecify."                JM
001295 E$=HEX(94): GOTO WDSELT                                            RT
001300 READ #2, KEY=ROOTWD$, IOBUFF$,EOD GOTO NOT_FOUND                   RT
001305 ER$= ROOTWD$&" is already in the list - press PF2 for more expans! JM
001310 ions.":E$=HEX(94)                                                  JM
001312 PASSWORD$=HEX(0001020F1011121F20)                                  JM
001313 GOTO WDSELT                                                        JM
001315 NOT_FOUND:  IF K<4 THEN EXPANSIONS ELSE UNCOMON                    RT
001320                                                                    RT
001325 BLANKF: FILE$=" ": CLOSE #1: OPEN%(1)=0                            RT
001330          IF OPEN%(2)=0 THEN SCREEN1                                RT
001331          CLOSE #2                                                  RT
001332          CALL "SCRATCH" ADDR("F",DFIL$,DLIB$,DVOL$,"B")            RT
001333          OPEN%(2)=0                                                RT
001334          GOTO SCREEN1                                              RT
001335                                                                    RT
001340 EXPANSIONS:                                                        RT
001345  EXPAND$()="    "                                                  RT
001350  RT_LEN=LEN(ROOTWD$)                                               RT
001355  IF STR(ROOTWD$,RT_LEN)<>"Y" THEN 1390                             RT
001360    EXPAND$(1)=STR(ROOTWD$,,RT_LEN-1)&"IES"                         RT
001365    IF K= 1 THEN 1450                                               RT
001370      EXPAND$(2)=STR(ROOTWD$,,RT_LEN-1)&"IED"                       RT
001375      EXPAND$(3)=ROOTWD$&"ING"                                      RT
001380    GOTO 1450                                                       RT
001385                                                                    RT
001390  IF STR(ROOTWD$,RT_LEN)<>"E" THEN 1425                             RT
```

```
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Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

001395    EXPAND$(1)=" "                                                  RT
001400    IF K= 1 THEN 1450                                               RT
001405      EXPAND$(2)=STR(ROOTWD$,,RT_LEN)&"D"                           RT
001410      EXPAND$(3)=STR(ROOTWD$,,RT_LEN-1)&"ING"                       RT
001415    GOTO 1450                                                       RT
001420                                                                    RT
001425  EXPAND$(1)=ROOTWD$&"ES"                                           RT
001430  IF K= 1 THEN 1450                                                 RT
001435  EXPAND$(2)=ROOTWD$&"ED"                                           RT
001440  EXPAND$(3)=ROOTWD$&"ING"                                          RT
001445                                                                    RT
001450  EXPAND$(4)=ROOTWD$&"S"                                            RT
001455                                                                    RT
001460 E$()=HEX(81)                                                       RT
001465 COMON:                                                             RT
001470 ACCEPT                                                           ! RT
001475        AT (01,03),                                               ! RT
001480 "CRES: Root Word Expansion Subsystem        (Common Category Expa! RT
001485 nsion Screen)",                                                  ! RT
001490        AT (02,03),                                               ! RT
001495 "================================================================! RT
001500 =============",                                                  ! RT
001505        AT (04,04),                                               ! RT
001510 "These are the default expansions for the common root word you've! RT
001515  entered.",                                                      ! RT
001520        AT (05,04),                                               ! RT
001525 "Please modify or delete any incorrect expansions.",             ! RT
001530        AT (08,21),                                               ! RT
001535 "The root word was:",                                            ! RT
001540        AT (08,42), FAC(HEX(85))     , ROOTWD$       , CH(20),    ! RT
001545        AT (09,21),                                               ! RT
001550 "Part of speech was:",                                           ! RT
001555        AT (09,42), FAC(HEX(84))     , PRTOSPC$      , CH(1),     ! RT
001560        AT (13,23),                                               ! RT
001565 "-S   expansion is",                                             ! RT
001570        AT (13,41), FAC(E$(4))       , EXPAND$(4)    , CH(20),    ! RT
001575        AT (14,23),                                               ! RT
001580 "-ES  expansion is",                                             ! RT
001585        AT (14,41), FAC(E$(1))       , EXPAND$(1)    , CH(20),    ! RT
001590        AT (15,23),                                               ! RT
001595 "-ED  expansion is",                                             ! RT
001600        AT (15,41), FAC(E$(2))       , EXPAND$(2)    , CH(20),    ! RT
001605        AT (16,23),                                               ! RT
001610 "-ING expansion is",                                             ! RT
001615        AT (16,41), FAC(E$(3))       , EXPAND$(3)    , CH(20),    ! RT
001620        AT (19,12), FAC(E$)          , ER$           , CH(55),    ! RT
001625        AT (22,30),                                               ! RT
001630 "Press",                                                         ! RT
001635        AT (22,36), FAC(HEX(85)),     ENTER$         , CH(05),    ! RT
001640        AT (22,42),                                               ! RT
001645 "to continue",                                                   ! RT
001650        AT (23,23),                                               ! RT
001655 "Press",                                                         ! RT
001660        AT (23,29), FAC(HEX(84)),     PF2$           , CH(03),    ! RT
001665        AT (23,33),                                               ! RT
001670 "to add user-defined suffixes",                                  ! RT
001675        AT (24,15),                                               ! RT
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001680 "Press",                                                          ! RT
001685         AT (24,21), FAC(HEX(84)),      PF15$          , CH(04),   ! RT
001690         AT (24,26),                                               ! RT
001695 "to reselect the word and/or part of speech",                     ! RT
001700 KEYS(BIN(0)&BIN(2)&BIN(18)&BIN(15)&BIN(31)), KEY(OPTION),         ! RT
001705 ON(BIN(15)&BIN(31)) GOTO SCREEN2,SCREEN2                            RT
001710                                                                     RT
001715 ER$=" ": E$=HEX(8C): E$()=HEX(81)                                   RT
001720 FOR I= 1 TO 4                                                       RT
001725  IF EXPAND$(I)=" " THEN 1760                                        RT
001730  FOR J= 1 TO LEN(EXPAND$(I))                                        RT
001735    IF POS("ABCDEFGHIJKLMNOPQRSTUVWXYZ'-"=STR(EXPAND$(I),J,1))>0   ! JM
001740         THEN 1755                                                   RT
001745   ER$="Illegal character found in expansion-please modify."         RT
001750   E$=HEX(84): E$(I)=HEX(91): GOTO COMON                             RT
001755  NEXT J                                                             RT
001760 NEXT I : GOTO 1775                                                  RT
001770                                                                     RT
001775 WDNO%=4                                                             RT
001780 IF OPTION=2 OR OPTION=18  THEN UNCOMON                              RT
001785                                                                     RT
001790 ADD_EXP:                                                            RT
001795 IF ROOTWD$=" " THEN 1875                                            RT
001800 READ #2,KEY=ROOTWD$,EOD GOTO 1820                                   RT
001805 ER$=ROOTWD$& " has already been added to the expansion list."      RT
001810 E$=HEX(94): GOTO 1875                                               RT
001815                                                                     RT
001820 RTOEXP$="Root Word:" : WORD$= ROOTWD$: ROOT$="*"                    RT
001825 PPART$,NEG$,TOBE$,MTW$=" "                                          RT
001830 GOSUB ATTRIBUTES                                                    RT
001835 IF OPTION=0 THEN 1855                                               RT
001836  ER$=WORD$ & " has been deleted from the expansions."               JM
001840 *ER$=EXPAND$(I)&" has been deleted from the expansions."            JM
001845  GOTO 1875                                                          RT
001850                                                                     RT
001855          $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOSPC$, PPART$,      ! RT
001860             NEG$,TOBE$,ROOT$,MTW$                                   RT
001865          WRITE #2, IOBUFF$, DATA GOTO IOERR2                        RT
001870                                                                     RT
001875 RTOEXP$="Expansion:"                                                RT
001880                                                                     RT
001885 FOR I= 1 TO WDNO%                                                   RT
001890  IF EXPAND$(I)= " " THEN 1980                                       RT
001895                                                                     RT
001900  READ #2,KEY=EXPAND$(I),EOD GOTO 1920                               RT
001905  ER$=EXPAND$(I)& " has already been added to the expansion list."  RT
001910  E$=HEX(8C): GOTO 1980                                              RT
001915                                                                     RT
001920  PRTOSPC$,NEG$,TOBE$,ROOT$,MTW$=" "                                 RT
001925  L=LEN(EXPAND$(I))                                                  RT
001930  IF STR(EXPAND$(I),L-1,L)="ED" THEN 1932                            RT
001931  PPART$=" ": GOTO 1935                                              RT
001932  PPART$="*": PRTOSPC$="V"                                           RT
001935  WORD$=EXPAND$(I): GOSUB ATTRIBUTES                                 RT
001940  IF OPTION=2 OR OPTION=18 THEN 1975                                 RT
001945                                                                     RT
001950          $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOSPC$, PPART$,      ! RT
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001955              NEG$,TOBE$,ROOT$,MTW$                                     RT
001960          WRITE #2, IOBUFF$, DATA GOTO IOERR2                            RT
001965          GOTO 1980                                                     RT
001970                                                                        RT
001975  ER$=EXPAND$(I)&" has been deleted from the expansions."               RT
001980 NEXT I                                                                 RT
001985                                                                        RT
001990 GOTO SCREEN2                                                           RT
001995                                                                        RT
002000 UNCOMON:                                                               RT
002005 ACCEPT                                                               ! RT
002010         AT (01,03),                                                  ! RT
002015 "CRES: Root Word Expansion Subsystem                (User-defined S! RT
002020 uffix Screen)",                                                      ! RT
002025         AT (02,03),                                                  ! RT
002030 "===============================================================! RT
002035 ============",                                                       ! RT
002040         AT (04,04),                                                  ! RT
002045 "  The fields below have been provided for user-defined suffixes.! RT
002050   Please",                                                           ! RT
002055         AT (05,04),                                                  ! RT
002060 "enter any",                                                         ! RT
002065         AT (05,14),  FAC(HEX(84)),       EXP$          , CH(09),     ! RT
002070         AT (05,24),                                                  ! RT
002075 "you want to appear in",                                             ! JM
002080         AT (05,46), FAC(HEX(85)),        FILE$         , CH(08),     ! RT
002085         AT (05,55),                                                  ! RT
002090 ".  This screen has been",                                           ! RT
002095         AT (06,04),                                                  ! RT
002100 "provided to enable you to enter the less common expansions of yo! RT
002105 ur choice.",                                                         ! RT
002110         AT (10,26),                                                  ! RT
002115 "Expansion 1",                                                       ! RT
002120  AT (10,38), FAC(E$(WDNO%+1  )), EXPAND$(WDNO%+1)    , CH(20),      ! RT
002125         AT (11,26),                                                  ! RT
002130 "Expansion 2",                                                       ! RT
002135  AT (11,38), FAC(E$( WDNO%+2 )), EXPAND$(WDNO%+2)     , CH(20),      ! RT
002140         AT (12,26),                                                  ! RT
002145 "Expansion 3",                                                       ! RT
002150  AT (12,38), FAC(E$( WDNO%+3 )), EXPAND$(WDNO%+3)     , CH(20),      ! RT
002155         AT (13,26),                                                  ! RT
002160 "Expansion 4",                                                       ! RT
002165  AT (13,38), FAC(E$( WDNO%+4 )), EXPAND$(WDNO%+4)     , CH(20),      ! RT
002170         AT (14,26),                                                  ! RT
002175 "Expansion 5",                                                       ! RT
002180  AT (14,38), FAC(E$( WDNO%+5 )), EXPAND$(WDNO%+5)     , CH(20),      ! RT
002185         AT (18,14),  FAC(E$),            ER$           , CH(56),     ! RT
002190         AT (22,30),                                                  ! RT
002195 "Press",                                                             ! RT
002200         AT (22,36),  FAC(HEX(85)),       ENTER$        , CH(05),     ! RT
002205         AT (22,42),                                                  ! RT
002210 "to continue",                                                       ! RT
002215         AT (23,20),                                                  ! RT
002220 "Press",                                                             ! RT
002225         AT (23,26),  FAC(HEX(84)),       PF2$          , CH(03),     ! RT
002230         AT (23,30),                                                  ! RT
002235 "to add more user-defined suffixes",                                 ! RT
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002240        AT (24,15),                                               ! RT
002245 "Press",                                                         ! RT
002250        AT (24,21), FAC(HEX(84)),         PF15$         , CH(04), ! RT
002255        AT (24,26),                                               ! RT
002260 "to reselect the word and/or part of speech" ,                   ! RT
002265 KEYS(BIN(0)&BIN(2)&BIN(18)&BIN(15)&BIN(31)), KEY(OPTION),        ! RT
002270 ON (BIN(15)&BIN(31)) GOTO SCREEN2,SCREEN2                          RT
002275                                                                    RT
002280                                                                    RT
002285 ER$=" ":E$=HEX(8C):E$()=HEX(81)                                    RT
002290 FOR I=(WDNO%+1) TO (WDNO%+5)                                       RT
002295  IF EXPAND$(I)=" " THEN 2330                                       RT
002300  FOR J= 1 TO LEN(EXPAND$(I))                                       RT
002305    IF POS("ABCDEFGHIJKLMNOPQRSTUVWXYZ'-"=STR(EXPAND$(I),J,1))>0  ! JM
002310       THEN 2325                                                    RT
002315   ER$="Illegal character found in expansion - please modify."      RT
002320   E$=HEX(84): E$(I)=HEX(91): GOTO UNCOMON                          RT
002325  NEXT J                                                            RT
002330 NEXT I                                                             RT
002335                                                                    RT
002340 IF WDNO%<11 THEN WDNO%=WDNO%+5                                     JM
002341 IF I>=20 AND(OPTION=2 OR OPTION=18) THEN ER$="The system allows o! JM
002342 nly 20 expansions per word per trial."                             JM
002345 IF OPTION=2 OR OPTION=18 THEN UNCOMON                              RT
002350 GOTO ADD_EXP                                                       RT
002360                                                                    RT
002365 ATTRIBUTES:                                                        RT
002370 IF MAND$<>" "THEN ITLE9$="(* or NO ENTRY)" ELSE ITLE9$=" "         JM
002375 ITLE3$        ="CURRENT ATTRIBUTES"                                JM
002380 ITLE4$        ="LEGAL ENTRIES"                                     JM
002385 ACCEPT                                                           ! RT
002390        AT (01,03),                                               ! RT
002395 "CRES: Root Word Expansion Subsystem                 (Attribute O! RT
002400 ption Screen)",                                                  ! RT
002405        AT (02,03),                                               ! RT
002410 "================================================================! RT
002415 =============",                                                  ! RT
002420        AT (04,03),                                               ! RT
002425 "Please specify the proper attriputes for this expansion to be en! RT
002430 tered into",                                                     ! RT
002435        AT (05,03), FAC(HEX(85)),     FILE$         , CH(08),     ! RT
002440        AT (05,12),                                               ! RT
002445 ".",                                                             ! RT
002450        AT (07,30), FAC(HEX(AD)),       ITLE3$      , CH(18),     ! JM
002455        AT (07,60), FAC(HEX(AD)),    ITLE4$        , CH(13),      ! JM
002460        AT (09,07), FAC(HEX(8C)),     RTOEXP$       , CH(10),     ! RT
002465        AT (09,20), FAC(HEX(85)),       WORD$          , CH(20),  ! RT
002470        AT (09,60),                                               ! RT
002475 "    (A-Z-')",                                                   ! JM
002480        AT (11,07),                                               ! RT
002485 "Part of Speech",                                                ! RT
002490        AT (11,39), FAC(HEX(80)),       PRTOSPC$      , CH(01),   ! RT
002495        AT (11,60),                                               ! RT
002500 "(ABCIJNOPVajnd)",                                               ! RT
002505        AT (12,07),                                               ! RT
002510 "Past Participle",                                               ! RT
002515        AT (12,39), PPART$        , CH(01),                       ! RT
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002520        AT (12,60),                                                 ! RT
002525 "(* or NO ENTRY)",                                                 ! RT
002530        AT (13,07),                                                 ! RT
002535 "Negative",                                                        ! RT
002540        AT (13,39), NEG$          , CH(01),                         ! RT
002545        AT (13,60),                                                 ! RT
002550 "(* or NO ENTRY)",                                                 ! RT
002555        AT (14,07),                                                 ! RT
002560 "To Be",                                                           ! RT
002565        AT (14,39), TOBE$         , CH(01),                         ! RT
002570        AT (14,60),                                                 ! RT
002575 "(* or NO ENTRY)",                                                 ! RT
002580        AT (15,07),                                                 ! RT
002585 "Root Word",                                                       ! RT
002590        AT (15,39), ROOT$         , CH(01),                         ! RT
002595        AT (15,60),                                                 ! RT
002600 "(* or NO ENTRY)",                                                 ! RT
002605        AT (16,07), FAC(HEX(8C)),     MAND$          , CH(24),      ! RT
002610        AT (16,39), FAC(M$),             MIW$           , CH(01),   ! RT
002615        AT (16,60),                                                 ! RT
002620        FAC(HEX(8C)),  ITLE9$,CH(15),                               ! JM
002625        AT (18,10), FAC(E$),              ER$            , CH(60), ! RT
002630        AT (21,30),                                                 ! RT
002635 "Press",                                                           ! RT
002640        AT (21,36), FAC(HEX(85)),         ENTER$         , CH(05),  ! RT
002645        AT (21,42),                                                 ! RT
002650 "to continue",                                                     ! RT
002655        AT (22,13),                                                 ! RT
002660 "Press",                                                           ! RT
002665        AT (22,19), FAC(HEX(84)),         PF1$           , CH(03),  ! RT
002670        AT (22,23),                                                 ! RT
002675 "to view the definitions of the parts of speech",                 ! RT
002680        AT (23,24),                                                 ! RT
002685 "Press",                                                           ! RT
002690        AT (23,30), FAC(HEX(84)),      PF2$           , CH(04),     ! RT
002695        AT (23,34),                                                 ! JM
002700 "to delete this expansion",                                        ! RT
002705        AT (24,22),                                                 ! RT
002710 "Press",                                                           ! RT
002715        AT (24,28), FAC(HEX(84)),      PF16$          , CH(04),     ! RT
002720        AT (24,33),                                                 ! RT
002725 "to return to the Master Menu",                                    ! RT
002730 KEYS(BIN(0)&BIN(1)&BIN(17)&BIN(2)&BIN(18)&BIN(16)&BIN(32)),        ! RT
002735 KEY (OPTION),                                                      ! RT
002740 ON(BIN(16)&BIN(32)) GOTO SCRATCH_FILE,SCRATCH_FILE                   RT
002745 IF OPTION =1 OR OPTION =17 THEN GOSUB DEFN                           RT
002750 IF OPTION =1 OR OPTION =17 THEN GOTO ATTRIBUTES                      RT
002755                                                                      RT
002760 IF OPTION=2 OR OPTION=18 THEN RETURN                                 RT
002765 ER$=" ":E$=HEX(8C)                                                   RT
002770 /*  Check for validity of entries  */                                RT
002775                                                                      RT
002780          IF POS("ABCIJNOPVadjn"=PRTOSPC$)>0 THEN NEXT1               RT
002785          ER$ = "Part of Speech value is illegal."                    RT
002790          E$ = HEX(94)                                                RT
002795          GOTO ATTRIBUTES                                             RT
002800                                                                      RT
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002805 NEXT1:   IF POS(" *"=PPART$)>0 THEN NEXT2                             RT
002810          ER$ = "Past Participle value is illegal."                    RT
002815          E$ = HEX(94)                                                 RT
002820          GOTO ATTRIBUTES                                              RT
002825 NEXT2:   IF POS(" *"=NEG$)>0 THEN NEXT3                               RT
002830          ER$ = "   Negative value is illegal."                        RT
002835          E$ = HEX(94)                                                 RT
002840          GOTO ATTRIBUTES                                              RT
002845 NEXT3:   IF POS(" *"=TOBE$)>0 THEN NEXT4                              RT
002850          ER$ = "    To Be value is illegal."                          RT
002855          E$ = HEX(94)                                                 RT
002860          GOTO ATTRIBUTES                                              RT
002865 NEXT4:   IF POS(" *"=MTW$)>0 THEN NEXT5                               RT
002870          ER$ = "Mandatory word value is illegal."                     RT
002875          E$ = HEX(94)                                                 RT
002880          GOTO ATTRIBUTES                                              RT
002885 NEXT5:   IF POS(" *"=ROOT$)>0 THEN 2905                               RT
002890          ER$ = "  Root word value is illegal."                        RT
002895          E$ = HEX(94)                                                 RT
002900          GOTO ATTRIBUTES                                              RT
002905 RETURN                                                                RT
002910                                                                       RT
002915 DEFN:                                                                 RT
002920 ACCEPT                                                              !
002925         AT (01,01),                                                 !
002930 "CRES: Root Word Expansion Subsystem                  (Definition of! JM
002935  Entries Screen)",                                                  ! JM
002940         AT (02,01),"==================================================!
002945 ===================================",                               !
002950         AT (05,08),  FAC(HEX(AD)),        ITLE5$        , CH(14),   ! JM
002955         AT (05,49),  FAC(HEX(AD)),        ITLE6$        , CH(10),   ! JM
002960         AT (07,03),  FAC(HEX(84)),      P$(1)           , CH(03),   !
002965         AT (07,08),                                                 !
002970 "Adjective ..............Modifies a noun or pronoun",               !
002975         AT (08,03), FAC(HEX(84)),       P$(2)           , CH(03),   !
002980         AT (08,08),                                                 !
002985 "Adjective/verb .........A word that may function as an adjective!
002990  or verb",                                                          !
002995         AT (09,03),  FAC(HEX(84)),      P$(3)           , CH(03),   !
003000         AT (09,08),                                                 !
003005 "Adverb .................Modifies a verb, adjective, or adverb",   !
003010         AT (10,03),  FAC(HEX(84)),      P$(4)           , CH(03),   !
003015         AT (10,08),                                                 !
003020 "Adverb/verb ............A word that may function as an adverb or!
003025  verb",                                                             !
003030         AT (11,03), FAC(HEX(84)),       P$(5)           , CH(03),   !
003035         AT (11,08),                                                 !
003040 "Article ................A limiting adjective before a noun (e.g.!
003045  a, the)",                                                          !
003050         AT (12,03), FAC(HEX(84)),       P$(6)           , CH(03),   !
003055         AT (12,08),                                                 !
003060 "Conjunction ............Links phrases or clauses (e.g. or)",       !
003065         AT (13,03),  FAC(HEX(84)),      P$(7)           , CH(03),   !
003070         AT (13,08),                                                 !
003075 "Interjection ...........Used for simple exclamations (e.g. Oh!)"!
003080 ,                                                                   !
003085         AT (14,03),  FAC(HEX(84)),      P$(8)           , CH(03),   !
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003090         AT (14,08),                                          :
003095 "Noun ....................Indicates a person, place, or thing",  :
003100         AT (15,03),  FAC(HEX(84)),      P$(13)         , CH(03),  :
003105         AT (15,08),                                          :
003110 "Noun/adjective .........A word that may function as a noun or ad:
003115 jective",                                                    :
003120         AT (16,03),  FAC(HEX(84)),      P$(9)          , CH(03),  :
003125         AT (16,08),                                          :
003130 "Noun/verb ..............Word that may function as a noun or verb:
003135 ",                                                           :
003140         AT (17,03), FAC(HEX(84)),       P$(10)         , CH(03),  :
003145         AT (17,08),                                          :
003150 "Preposition ............Expresses a relationship between two ele:
003155 ments of ",                                                  :
003160         AT (18,08),                                          :
003165 "                        a sentence (e.g. in, on, by, to, since) : JM
003170 ",                                                           :
003175         AT (19,03),  FAC(HEX(84)),      P$(11)         , CH(03),  :
003180         AT (19,08),                                          :
003185 "Pronoun ................Word that may be used as a substitute fo:
003190 r a noun",                                                   :
003195         AT (20,08),                                          :
003200 "                        (e.g. I, you, she, what,....)",         : JM
003205         AT (21,03),  FAC(HEX(84)),      P$(12)         , CH(03),  :
003210         AT (21,08),                                          :
003215 "Verb ....................Denotes an action or occurrence",     :
003220         AT (23,20),                                          :
003225 "Press",                                                     :
003230         AT (23,26),   FAC(HEX(84)),      PF1$           , CH(03),  :
003235         AT (23,30),                                          :
003240 "to return to the previous screen",                          :
003245 KEYS(BIN(1)&BIN(17))                                           RT
003250 RETURN                                                         RT
003255                                                                RT
003260 PRINT_SCREEN_INIT: FLAG=1 :ER$=" ":E$=HEX(8D)                  RT
003265 PRINT_SCREEN:                                                  RT
003270 ACCEPT                                                       : RT
003275         AT (01,03),                                          : RT
003280 "CRES: Root Word Expansion Subsystem   (Print, Display or Merge E: RT
003285 .R.W. Option)",                                              : RT
003290         AT (02,03),                                          : RT
003295 "================================================================: RT
003300 =============",                                              : RT
003305         AT (04,03),                                          : RT
003310 "Since you have completed the root word expansion list, please en: RT
003315 ter the",                                                    : RT
003320         AT (05,03),                                          : RT
003325 "appropriate",                                               : RT
003330         AT (05,15),   FAC(HEX(85)),      PFKEY$         , CH(06),  : RT
003335         AT (05,22),                                          : RT
003340 " corresponding to one of the following operations:",        : RT
003345         AT (07,10),   FAC(E$),           ER$            , CH(65),  : RT
003350         AT (09,17),   FAC(HEX(A5)),      PF$            , CH(02),  : RT
003355         AT (09,24),   FAC(HEX(AC)),      OPERATION$     , CH(27),  : RT
003360         AT (10,17),   FAC(HEX(84)),      A1$            ,          : RT
003365         AT (10,24),                                          : RT
003370 "Display root word expansions",                              : RT
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003375        AT (11,17),   FAC(HEX(84)),      A2$           ,          ! RT
003380        AT (11,24),                                               ! RT
003385 "Print listing of root word expansions",                         ! RT
003390        AT (12,17),   FAC(HEX(84)),      A3$           ,          ! RT
003395        AT (12,24),                                               ! RT
003400 "Merge root words into",                                         ! RT
003405        AT (12,46),   FAC(HEX(85)),      FILE$         , CH(08),  ! RT
003410        AT (14,17),   FAC(HEX(84)),      A15$          ,          ! RT
003415        AT (14,24),                                               ! RT
003420 "Add or modify root word expansions before merging lists",       ! RT
003425        AT (15,17),  FAC(HEX(84)),      A16$          ,           ! RT
003430        AT (15,24),                                               ! RT
003435 "Exit the program without merging expansions",                   ! RT
003440        AT (18,03),                                               ! RT
003445 "This optional subtitle may be used to identify a root word expan! RT
003450 sion list",                                                      ! RT
003455        AT (19,03),                                               ! RT
003460 "that has been queued to the printer.",                          ! RT
003465        AT (21,14),                                               ! RT
003470 "SUBTITLE:",                                                     ! RT
003475        AT (21,27),  FAC(HEX(81)),      SUB1$         , CH(23),   ! RT
003480        AT (22,27),  FAC(HEX(81)),      SUB2$         , CH(23),   ! RT
003485 KEYS(HEX(000111021203130F1F1020)), KEY(OPTION),                  ! RT
003490 ON(BIN(16)&BIN(32)) GOTO SCRATCH_FILE,SCRATCH_FILE                 RT
003495                                                                    RT
003500 ER$=" ":E$=HEX(8C):WORD$,PRTOSPC$=" "                              RT
003505  IF OPTION=1 OR OPTION =17 THEN VIEW                               RT
003510  IF OPTION=2 OR OPTION =18 THEN VIEW                               RT
003515  IF OPTION=3 OR OPTION =19 THEN MERGE                              RT
003520  IF OPTION=15 OR OPTION=31 THEN MODIFY                             RT
003525  GOTO PRINT_SCREEN                                                 RT
003530                                                                    RT
003535 MODIFY:                                                            RT
003540 OPERATION$    ="OPERATION":ROOTWD$=" "                             RT
003545 ACCEPT                                                           ! RT
003550        AT (01,03),                                               ! RT
003555 "CRES: Root Word Expansion Subsystem                 (Modify Expa! RT
003560 nsion Screen)",                                                  ! RT
003565        AT (02,03),                                               ! RT
003570 "================================================================! RT
003575 =============",                                                  ! RT
003580        AT (04,03),                                               ! RT
003585 " Please enter the word you want to modify and select the appropr! RT
003590 iate",                                                           ! RT
003595        AT (04,72),   FAC(HEX(85)),      PFKEY$        , CH(06),  ! RT
003600        AT (04,79),                                               ! RT
003605 ".",                                                             ! RT
003610        AT (08,28),                                               ! RT
003615 "Word =",                                                        ! RT
003620        AT (08,35),   FAC(HEX(81)),      WORD$         , CH(20),  ! RT
003625        AT (10,25),   FAC(E$),           ER$           , CH(55),  ! RT
003630        AT (12,29),   FAC(HEX(A5)),      PF$           , CH(02),  ! RT
003635        AT (12,36),   FAC(HEX(AD)),      OPERATION$    , CH(15),  ! RT
003640        AT (13,29),   FAC(HEX(84)),      A1$           ,          ! RT
003645        AT (13,36),                                               ! RT
003650 "Add an Expansion",                                              ! RT
003655        AT (14,29),   FAC(HEX(84)),      A2$           ,          ! RT
```

```
003660        AT (14,36),                                              ! RT
003665 "Delete the Word",                                              ! RT
003670        AT (15,29),   FAC(HEX(84)),      A3$          ,          ! RT
003675        AT (15,36),                                              ! RT
003680 "Modify the Word",                                              ! RT
003685        AT (17,29),   FAC(HEX(84)),      A15$         ,          ! RT
003690        AT (17,36),                                              ! RT
003695 "End Modifications",                                            ! RT
003700        AT (18,29),  FAC(HEX(84)),       A16$         ,          ! RT
003705        AT (18,36),                                              ! RT
003710 "Return to the Master Menu",                                    ! RT
003715 KEYS(HEX(000111021203130F1F1020)), KEY(OPTION),                 ! RT
003720 ON(BIN(15)&BIN(31)&BIN(16)&BIN(32))GOTO PRINT_SCREEN_INIT,      ! RT
003725          PRINT_SCREEN_INIT,SCRATCH_FILE,SCRATCH_FILE              RT
003730                                                                   RT
003735 ER$=" ":E$=HEX(8C)                                                RT
003740                                                                   RT
003745 FOR I= 1 TO LEN(WORD$)                                            RT
003750 IF POS("ABCDEFGHIJKLMNOPQRSTUVWXYZ'-"=STR(WORD$,I,1))>0 THEN    ! JM
003755 3770     ,                                                        RT
003760 ER$= "Illegal character found in word - please respecify."        RT
003765 E$=HEX(94):GOTO MODIFY                                            RT
003770 NEXT I                                                            RT
003775                                                                   RT
003780 READ #2, HOLD, KEY=WORD$, IOBUFF$, EOD GOTO 3825                  RT
003785 IF OPTION= 2 OR OPTION= 18 THEN 3810                              RT
003790 IF OPTION= 3 OR OPTION= 19 THEN 3895                              RT
003795 ER$="        "&WORD$&" already exists in the list.":E$=HEX(94)    JM
003800 GOTO MODIFY                                                       RT
003805                                                                   RT
003810 DELETE #2: ER$="       " & WORD$&" has been deleted.": E$=HEX(8D) RT
003815 WORD$=" ": GOTO MODIFY                                            RT
003820                                                                   RT
003825 IF OPTION<>1 AND OPTION<>17 THEN  ER1                             RT
003830  PRTOSPC$,PPART$,NEG$,TOBE$,ROOT$,MTW$=" "                        RT
003835  GOSUB ATTRIBUTES                                                 RT
003840  IF OPTION=2 OR OPTION=18 THEN 3880                               RT
003845                                                                   RT
003850          $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOSPC$, PPART$,    ! RT
003855             NEG$,TOBE$,ROOT$,MTW$                                 RT
003860          WRITE #2, IOBUFF$, DATA GOTO IOERR2                      RT
003865          ER$=WORD$&" has been inserted.":E$=HEX(8C)               JM
003870          GOTO MODIFY                                              RT
003875                                                                   RT
003880  ER$=WORD$&" has been deleted from the expansions."               RT
003885 GOTO MODIFY                                                       RT
003890                                                                   RT
003895 $UNPACK(F=F1$) IOBUFF$ TO WORD$, PRTOSPC$,PPART$,NEG$,TOBE$,    ! RT
003900        ROOT$,MTW$                                                 RT
003905 GOSUB ATTRIBUTES                                                  RT
003910 IF OPTION=2 OR OPTION=18 THEN 3810                                RT
003915   $PACK (F=F1$) IOBUFF$ FROM WORD$, PRTOSPC$, PPART$,           ! RT
003920   NEG$,TOBE$,ROOT$,MTW$                                           RT
003925   REWRITE #2,IOBUFF$, DATA GOTO IOERR2                            RT
003930   ER$="        "&WORD$& " has been updated.": E$=HEX(8D)          RT
003935   GOTO MODIFY                                                     RT
003940                                                                   RT
```

```
003945 ERl: ER$="         "&WORD$&" does not exist in this list."         RT
003950    E$=HEX(94): GOTO MODIFY                                         RT
003955                                                                    RT
003960 VIEW:                                                              RT
003965 /* Now it's time to generate our print file name */                RT
003970                                                                    RT
003975         LPP%=50                                                    RT
003980         DAT$= DATE                                                 RT
003985         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)      RT
003990         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)                        RT
003995                                                                    RT
004000         PFILE$="ROOT##"                                            RT
004005         I%=0                                                       RT
004010  NEXT14: CONVERT I% TO STR(PFILE$,7,2),PIC(00)                     RT
004015         I%=I%+1                                                    RT
004020         CALL "LIMITS" (PFILE$,SLIB$,SVOL$,CODE$,ER$)               RT
004025         IF CODE$="Y" THEN NEXT14                                   RT
004030 DISPLAY                                                          ! RT
004035        AT (01,03),                                               ! RT
004040 "CRES: Expanded Root Word Print Subsystem",                      ! RT
004045        AT (01,61),                                               ! RT
004050 "(Generation Screen)",                                           ! RT
004055        AT (02,03),                                               ! RT
004060 "================================================================! RT
004065 =============",                                                  ! RT
004070         AT (12,23),                                              ! RT
004075 "Output file now being generated!"                                 RT
004080         OPEN NOGETPARM #3,OUTPUT,FILE=PFILE$,LIBRARY=SLIB$,      ! RT
004085           VOLUME=SVOL$,SPACE=15000                                 RT
004090         GOSUB TTL_PGE                                              RT
004095         STARTPH$ = ALL(HEX(00))                                    RT
004100         PAGE% = 1                                                  RT
004105         GOSUB FIRST                                                RT
004110         RECS% = 0                                                  RT
004115         READ #2, KEY>=STARTPH$,IOBUFF$,EOD GOTO HOME               RT
004120 KNOT:   PSN= POS("JVCjNOInAPBad"= STR(IOBUFF$,21,1))               RT
004125         IF PSN=0 THEN PSN=14
004130         IF PSN=14 THEN A$(14)=STR(IOBUFF$,21,1)
004135         IF OPTION=1 OR OPTION=17 THEN DISPFIL                      RT
004140      WRITE #3, USING IMG6,C$, " ",STR(IOBUFF$,1,20),             ! RT
004145            A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,24,1),          ! RT
004150            STR(IOBUFF$,23,1),STR(IOBUFF$,27,1)                     RT
004155         IF(STR(IOBUFF$,26,1)<>"*")THEN AGAN                        RT
004160         C$=HEX(0000)                                               RT
004165         WRITE #3, USING IMG9, C$,STR(IOBUFF$,1,20)                 RT
004170         WRITE #3, USING IMG9, C$,STR(IOBUFF$,1,20)                 RT
004175         C$=HEX(0001)                                               RT
004180         GOTO AGAN                                                  RT
004185 DISPFIL: IF STR(IOBUFF$,26,1)="*" THEN STR(IOBUFF$,26,1)="+"       RT
004190      WRITE #3, USING IMG6,C$,STR(IOBUFF$,26,1),STR(IOBUFF$,1,20),! RT
004195            A$(PSN),STR(IOBUFF$,22,1),STR(IOBUFF$,24,1),          ! RT
004200            STR(IOBUFF$,23,1),STR(IOBUFF$,27,1)                     RT
004205 AGAN:   IF RECS%=LPP% THEN RECS%=1                                 RT
004210         READ #2, IOBUFF$,EOD GOTO HOME                             RT
004215         IF RECS% = 1 AND PAGE%<>1 THEN GOSUB HEADER                RT
004220         RECS%=RECS%+1                                              RT
004225         GOTO KNOT                                                  RT
```

```
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Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

004230 HOME:    IF RECS%<2 THEN RECS%=LPP%                                    RT
004235          WRITE #3, USING TIT, C$                                       RT
004240          RECS%=RECS%+2                                                 RT
004245          WRITE #3, USING DG, C$                                        RT
004250          FOR I = RECS% TO LPP%                                         RT
004255          WRITE #3, USING TIT, C$                                       RT
004260          NEXT I                                                        RT
004265          IF OPTION=2 OR OPTION=18 THEN HER1                            RT
004270          WRITE #3, USING IMG8, C$                                      RT
004275          GOTO HER                                                      RT
004280 HER1:    WRITE #3, USING ROT, C$                                       RT
004285          WRITE #3, USING ROT1, HEX(0000)                               RT
004290          WRITE #3, USING ROT1, HEX(0000)                               RT
004295 HER:     CLOSE #3                                                      RT
004300          IF OPTION=2 OR OPTION=18 THEN MESS                            RT
004305          CLOSE WS                                                      RT
004310          MSG2$ = "CANCEL Processing"                                   RT
004315          MSK$=HEX(00)                                                  RT
004320          CMSG$ = " "                                                   RT
004325         CALL "LINK" ADDR("DISPFILE","P",RLIB$,RVOL$,3%,PFILE$,       ! RT
004330           SLIB$,SVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,255%,C%,R%)         RT
004335          ER$ = " "                                                     RT
004340          IF C%<>0 OR R%<>0                                           ! RT
004345          THEN ER$ = STR(CMSG$,141)                                     RT
004350          GOTO PRINT_SCREEN                                             RT
004355                                                                        RT
004360 MESS: ER$="         File "&PFILE$&" in Library "& SLIB$ &" on " & ! RT
004365  SVOL$ &" generated.": E$=HEX(84)                                      RT
004370          GOTO PRINT_SCREEN                                             RT
004375                                                                        RT
004380 TTL_PGE:                                                               RT
004385         WRITE #3, USING TIT, HEX(8001)                                 RT
004390         WRITE #3, USING TIT, HEX(0015)                                 RT
004395         C$ = HEX(0001)                                                 RT
004400         WRITE #3, USING TIT1, C$                                       RT
004405         WRITE #3, USING TIT2, C$                                       RT
004410         WRITE #3, USING TIT0, C$,D$,T$                                 RT
004415         WRITE #3, USING TIT3, C$                                       RT
004420         WRITE #3, USING TIT2, C$                                       RT
004425         WRITE #3, USING TIT1, C$                                       RT
004430         WRITE #3, USING TIT2, C$                                       RT
004435         IF SUB1$ = " " THEN GERRY                                      RT
004440         WRITE #3, USING TIT4, C$, SUB1$                                RT
004445         IF SUB2$<>" " THEN WRITE #3, USING TIT10,C$,SUB2$              RT
004450         WRITE #3, USING TIT2, C$                                       RT
004455 GERRY: WRITE #3, USING TIT5, C$,DFIL$                                  RT
004460         WRITE #3, USING TIT2, C$                                       RT
004465         WRITE #3, USING TIT6, C$,DLIB$                                 RT
004470         WRITE #3, USING TIT2, C$                                       RT
004475         WRITE #3, USING TIT7, C$,DVOL$                                 RT
004480         WRITE #3, USING TIT2, C$                                       RT
004485         WRITE #3, USING TIT1, C$                                       RT
004490         RETURN                                                         RT
004495                                                                        RT
004500 HEADER:                                                                RT
004505         PAGE%=PAGE%+1                                                  RT
004510         IF OPTION=2 OR OPTION=18 THEN FRST1                            RT
```

```
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Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

004515         WRITE #3, USING TIT, C$                                         RT
004520         WRITE #3, USING IMG8, C$                                        RT
004525         GOTO FIRST                                                      RT
004530 FRST1: WRITE #3, USING ROT, C$                                          RT
004535         WRITE #3, USING ROT1, HEX(0000)                                 RT
004540         WRITE #3, USING ROT1, HEX(0000)                                 RT
004545 FIRST: WRITE #3, USING TIT, HEX(8001)                                   RT
004550         IF SUB1$ = " "                                                ! RT
004555         THEN WRITE #3, USING IMG,C$,D$,T$,PAGE%                       ! RT
004560         ELSE GOTO FOUT                                                  RT
004565         GOTO ALRITE                                                     RT
004570 FOUT:   WRITE #3, USING IMG1,C$,SUB1$,D$,T$,PAGE%                       RT
004575         IF SUB2$<>" "                                                 ! RT
004580         THEN WRITE #3, USING IMG7,C$,SUB2$                              RT
004585 ALRITE: WRITE #3, USING IMG2, C$, DFIL$, DLIB$, DVOL$                   RT
004590         WRITE #3, USING IMG3, C$                                        RT
004595         WRITE #3, USING IMG4, C$                                        RT
004600         WRITE #3, USING IMG5, C$                                        RT
004605         WRITE #3, USING IMG3, C$                                        RT
004610         RETURN                                                          RT
004615                                                                         RT
004620 TIT0:%##      .       !    ########                                   ! RT
004625     #####    !                                                          RT
004630 TIT: %##                                                                RT
004635 DG:%##    !!! END OF LISTING !!!                                        RT
004640 TIT1:%##          !-------------------------------------------------! RT
004645 ------------!                                                           RT
004650 TIT2:%##          !                                                   ! RT
004655              !                                                          RT
004660 TIT3:%##          !                 ****** ROOT WORD EXPANSION ****! RT
004665 *            !                                                          RT
004670 TIT4:%##          !                TITLE OF LIST:  ################! RT
004675 ####         !                                                          RT
004680 TIT5:%##          !              , EXPANSION FILE:      ########     ! RT
004685              !                                                          RT
004690 TIT6:%##          !                EXPANSION LIBRARY:  ########     ! RT
004695              !                                                          RT
004700 TIT7:%##          !                EXPANSION VOLUME:    ######      ! RT
004705              !                                                          RT
004710 TIT10:%##          !                             ################! RT
004715 #####          !                                                        RT
004720 IMG:%## ########                                  #####             ! RT
004725          PAGE #####                                                     RT
004730 IMG1:%## TITLE OF LIST : ####################       ########        ! RT
004735 #####       PAGE #####                                                  RT
004740 IMG7:%##                 ####################                           RT
004745 IMG2:%## Input File is ######## in Library ######## on Volume ###! RT
004750 ###                                                                     RT
004755 IMG3:%##==================================================================! RT
004760 =====================                                                   RT
004765 IMG4:%##    WORD                Part of        Past       To Be  Ne! RT
004770 gative   Mand Tech                                                      RT
004775 IMG5:%##                        Speech      Participle               ! RT
004780             Word                                                        RT
004785 IMG6:%## # #################### ##########      #         #         ! RT
004790  #         #                                                            RT
004795 IMG9:%##    ####################                                        RT
```

```
Wang VS Integrated Editor - Version  6.10.00       13:41 11/13/84   Page    18
Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

004800 IMG8:%## + = ROOT WORD                                             RT
004805 ROT:%##   BOLDFACE = Root Word                                     RT
004810 ROT1:%##   BOLDFACE                                                RT
004815                                                                    RT
004820 MERGE: FLAG=0                                                      RT
004825 DISPLAY                                                          ! RT
004830        AT (01,03),                                               ! RT
004835 "CRES: Expanded Root Word Merge Subsystem",                      ! RT
004840        AT (01,61),                                               ! RT
004845 "(Generation Screen)",                                           ! RT
004850        AT (02,03),                                               ! RT
004855 "================================================================! RT
004860 =============",                                                  ! RT
004865         AT (12,23),                                              ! RT
004870 "Merging is now taking place!"                                     RT
004875   IF OPEN%(2)=1 THEN CLOSE #2                                      RT
004880   OPEN NOGETPARM #2, IO, FILE=DFIL$, LIBRARY=DLIB$, VOLUME=DVOL$   RT
004885   OPEN%(2)=1                                                       RT
004890   READ #2,IOBUFF$,EOD GOTO 4940                                    RT
004895   READ #1,/ HOLD, KEY=STR(IOBUFF$,,20),BUFF$,EOD GOTO INSERT       RT
004900   REWRITE #1, IOBUFF$                                              RT
004905   GOTO 4890                                                        RT
004910 INSERT:                                                            RT
004915   WRITE #1, IOBUFF$                                                RT
004920   GOTO 4890                                                        RT
004925                                                                    RT
004926 SCRATCH_FILE:                                                      RT
004930 ER$= "Before returning to the Master Menu, consider the following! RT
004935  deletion." :GOTO 4945                                             RT
004940 FLAG=0: ER$="              Merge has been sucessfully completed!"  RT
004945 E$=HEX(84)                                                         RT
004955 ACCEPT                                                           ! RT
004960        AT (01,03),                                               ! RT
004965 "CRES: Root Word Expansion Subsystem                 (Merge Compl! RT
004970 etion Screen)",                                                  ! RT
004975        AT (02,03),                                               ! RT
004980 "================================================================! RT
004985 =============",                                                  ! RT
004990        AT (05,04), FAC(E$), ER$,                         CH(70), ! RT
004995        AT (08,04),                                               ! RT
005000 "Press",                                                         ! RT
005005        AT (08,10), FAC(HEX(84)),         PF2$          , CH(03), ! RT
005010        AT (08,14),                                               ! RT
005015 ", if you want to delete the work file consisting of the root wor! JM
005020 d",                                                              ! RT
005025        AT (09,04),                                               ! RT
005030 "list you have just created.  If",                               ! RT
005035        AT (09,36), FAC(HEX(84)),         DFIL$         , CH(06), ! RT
005040        AT (09,43),                                               ! RT
005045 "is not deleted from",                                           ! RT
005050        AT (09,63), FAC(HEX(85)),         DVOL$         , CH(06), ! RT
005055        AT (09,70),                                               ! RT
005060 ", then",                                                        ! RT
005065        AT (10,04),                                               ! RT
005070 "the system utility 'DISPLAY' may be used at a later date to view! RT
005075  this list",                                                     ! RT
005080        AT (11,04),                                               ! RT
```

```
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Input File is CRES@ERW in Library CRES@SRC on Volume CRES02

005085 "again.  However, it is advised to delete these files when possib! RT
005090 le to avoid",                                                     ! RT
005095        AT (12,04),                                                ! RT
005100 "unnecessary accumulation of expanded root word files on disk.",  ! RT
005101        AT (16,15), FAC(E1$), ER1$,                                ! RT
005105        AT (22,17),                                                ! RT
005110 "Press",                                                          ! RT
005115        AT (22,23), FAC(HEX(84)),         PF15$         , CH(04),  ! RT
005120        AT (22,28),                                                ! RT
005125 "to return to the file selection screen",                         ! RT
005130        AT (23,22),                                                ! RT
005135 "Press",                                                          ! RT
005140        AT (23,28), FAC(HEX(84)),         PF16$         , CH(04),  ! RT
005145        AT (23,33),                                                ! RT
005150 "to return to the Master Menu",                                   ! RT
005155 KEYS(BIN(2)&BIN(18)&BIN(15)&BIN(31)&BIN(16)&BIN(32)),             ! RT
005160 ON (BIN(2)&BIN(18)&BIN(16)&BIN(32)) GOTO SCRAT,SCRAT,EXIT,EXIT      RT
005165                                                                     RT
005170 ER$=" ": E$=HEX(8C): FILE$=" ":GOTO FILMNU                          RT
005175           '                                                         RT
005180 SCRAT: IF OPEN%(2)=1 THEN CLOSE #2:OPEN%(2)=0                       RT
005185        CALL "LIMITS" (DFIL$,DLIB$,DVOL$,CODE$)                      RT
005190        IF CODE$="Y" THEN 5205                                       RT
005195        ER1$="No work file was created on this run"                  RT
005200        E1$=HEX(84): ER$=" ": E$=HEX(8C): GOTO 4955                  RT
005205        CALL "SCRATCH" ADDR("F",DFIL$,DLIB$,DVOL$,"B")               RT
005210        ER1$= DFIL$&" in "&DLIB$&" on "&DVOL$&" has been deleted."   RT
005215        E1$=HEX(84) :ER$=" ":E$=HEX(8C)                              RT
005220        GOTO 4955                                                    RT
005225                                                                     RT
005230 EXIT: IF OPEN%(1)=1 THEN CLOSE #1: IF OPEN%(2)=1 THEN CLOSE #2      RT
005235       IF OPEN%(3)=1 THEN CLOSE #3 : END                             RT
005240                                                                     RT
005245 /* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                  RT
005250 /* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                  RT
005255 DEF FN'7(ER$,B$,C$,D$)                                              RT
005260      PRINT                                                          RT
005265      E$=HEX(94)                                                     RT
005270      F$=B$                                                          RT
005275      L$=C$                                                          RT
005280      V$=D$                                                          RT
005285 RETURN                                                              RT
005290                                                                     RT
```

CRES ANALYSIS SUBSYSTEM

User Default Set-Up (KIKOFF)

KIKOFF in library CRES@SRC is the BASIC language program to set up and supply default values to the CRES Analysis program. The program checks for the existence of a defaults file for the particular user. (The file name is formed by concatenating the user ID and the string "DFLTS", and the file is stored in library CRES@DAT.) If the file exists, the defaults are set accordingly. If the file does not exist, a flag is set to create a defaults file for that user at the end of the analysis run. The object language version is KIKOFF in library CRES@SAV.

A complete program listing follows.

```
Wang VS Integrated Editor - Version  6.10.00        13:12 09/17/84    Page       1
Input File is KICKOFF  in Library CRES@SRC on Volume CRES00

000010 /*****************************************************************/ JM
000030 /*                                                               */ JM
000050 /*       SUBROUTINE KIKOFF SETS UP THE USER DEFAULTS FOR THE     */ JM
000070 /* ANALYSIS.  THIS BLOCK CHECKS IF A DEFAULT FILE EXISTS FOR     */ JM
000090 /* THE PARTICULAR USER.  IF THE FILE EXISTS, THE DEFAULTS ARE    */ JM
000110 /* FETCHED AND USED.  IF THE FILE DOES NOT EXIST, THE FILE IS    */ JM
000130 /* CREATED AND DEFAULTS ARE SUPPLIED.                            */ JM
000150 /*                                                               */ JM
000170 /*****************************************************************/ JM
000190                                                                     JM
000210 SUB "KIKOFF" ADDR(RGL$,PREP_CNT$,PASSV$,LNG_SEN$,LNG_PAR$,LNGWDS$! JM
000230    ,LNGSNT$,NEG$,UNCOM$,NUM_SUBZ$,INT_ANL$,NP$,ADVFN$,PERS_SENT$,! JM
000250     LNG_CLS$,TRNK_PV$,TECFIL$(),TECLIB$(),TECVOL$(),RET$,INLIB$, ! JM
000252     INVOL$)                                                         JM
000270 DIM RGL$1,PREP_CNT$1,RET$1,INVOL$6,INLIB$08                         JM
000290 DIM PASSV$1,LNG_SEN$1,LNG_PAR$1,LNGWDS$3,LNGSNT$2,NEG$1,UNCOM$1     JM
000310 DIM NUM_SUBZ$1,INT_ANL$1,NP$2,ADVFN$1,PERS_SENT$1,LNG_CLS$1         JM
000330 DIM TRNK_PV$1,TECFIL$(7)08,TECLIB$(7)08,TECVOL$(7)06                JM
000350 DIM USER$3,FILO$08,RETC$1,MESG$40                                   JM
000370 DIM F1$10,BUFF$190,F2$32,F3$14,F4$14,BUFF1$20,BUFF2$52,BUFF3$52     JM
000372 DIM BUFF4$50,F5$14,BUFF9$190                                        JM
000390 F1$=HEX(A0140010A034A034A032)                                       JM
000460 F2$=HEX(A001A001A001A001A001A003A002A001A001A001A001A002A001A001A! JM
000461 001A001)                                                            JM
000465 F3$=HEX(A008A008A006A008A008A006A008)                               JM
000467 F4$=HEX(A008A006A008A008A006A008A008)                               JM
000469 F5$=HEX(A006A008A008A006A008A008A006)                               JM
000470     SELECT #1, "SETDFLTS", CONSEC, RECSIZE=190, IOERR GOTO PROB1    JM
000490     SELECT #2, "GETDFLTS", CONSEC, RECSIZE=190, IOERR GOTO PROB2    JM
000530        CALL "EXTRACT" ADDR("ID", USER$)  /* FETCH THE USER'S ID */ JM
000550        FILO$=USER$ & "DFLTS"                                        JM
000570                                                                     JM
000590      /* SEE IF THE DEFAULTS FILE EXISTS FOR THIS USER */            JM
000610                                                                     JM
000630        CALL "LIMITS"(FILO$,INLIB$,INVOL$,RETC$,MESG$)               JM
000650        IF RETC$="Y" THEN FETCH  ,                                   JM
000670                                                                     JM
000690       /* IF HERE, WE NEED TO GENERATE A DEFAULTS FILE */            JM
000710       /* WE NEED THE ANALYSIS SCREENS TO ASK FOR DEFAULTS, */       JM
000730      /* SO SET RETURN CODE AND GO BACK TO ANALYSIS PROGRAM */       JM
000750                                                                     JM
000770        OPEN NOGETPARM #1, OUTPUT, SPACE=1, FILE=FILO$,LIBRARY=   ! JM
000790      INLIB$, VOLUME=INVOL$                                          JM
000810        BUFF1$ = RGL$ & PREP_CNT$ & PASSV$ & LNG_SEN$ & LNG_PAR$ &! JM
000830       LNGWDS$ & LNGSNT$ & NEG$ & UNCOM$ & NUM_SUBZ$ & INT_ANL$ & ! JM
000832         NP$ & ADVFN$ & PERS_SENT$ & LNG_CLS$ & TRNK_PV$             JM
000842       BUFF2$ = STR(TECFIL$(1),1,8) & STR(TECLIB$(1),1,8) &       ! JM
000852  STR(TECVOL$(1),1,6) & STR(TECFIL$(2),1,8) & STR(TECLIB$(2),1,8) ! JM
000862                 & STR(TECVOL$(2),1,6) & STR(TECFIL$(3),1,8)         JM
000872       BUFF3$ = STR(TECLIB$(3),1,8) & STR(TECVOL$(3),1,6) &       ! JM
000882  STR(TECFIL$(4),1,8) & STR(TECLIB$(4),1,8) & STR(TECVOL$(4),1,6) ! JM
000892                 & STR(TECFIL$(5),1,8) & STR(TECLIB$(5),1,8)         JM
000902       BUFF4$ = STR(TECVOL$(5),1,6) & STR(TECFIL$(6),1,8) &       ! JM
000912  STR(TECLIB$(6),1,8) & STR(TECVOL$(6),1,6) & STR(TECFIL$(7),1,8) ! JM
000922                 & STR(TECLIB$(7),1,8) & STR(TECVOL$(7),1,6)         JM
000932       $PACK (F=F1$) BUFF$ FROM BUFF1$, BUFF2$, BUFF3$, BUFF4$       JM
000950        WRITE #1, BUFF$                                              JM
```

```
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Input File is KICKOFF  in Library CRES@SRC on Volume CRES00

          CLOSE #1                                                     JM
          RET$="L"  /* SO WE'LL LOAD DEFAULTS AFTER USER SETS THEM */  JM
          GOTO IT                                    /* RETURN */      JM
                                                                       JM
   FETCH:                                                              JM
          IF RET$="L" THEN MISS                                        JM
          OPEN NOGETPARM #2, IO, FILE=FILO$,LIBRARY = INLIB$,        : JM
           VOLUME=INVOL$                                               JM
          READ #2, BUFF$                                               JM
          $UNPACK (F=F1$) BUFF$ TO BUFF1$,BUFF2$,BUFF3$,BUFF4$         JM
         $UNPACK (F=F2$) BUFF1$ TO RGL$,PREP_CNT$,PASSV$,LNG_SEN$,   : JM
           LNG_PAR$,LNGWDS$,LNGSNT$,NEG$,UNCOM$,NUM_SUBZ$,INT_ANL$, : JM
           NP$,ADVFN$,PERS_SENT$,LNG_CLS$,TRNK_PV$                     JM
         $UNPACK (F=F3$) BUFF2$ TO TECFIL$(1),TECLIB$(1),TECVOL$(1),: JM
                  TECFIL$(2),TECLIB$(2),TECVOL$(2),TECFIL$(3)          JM
         $UNPACK (F=F4$) BUFF3$ TO TECLIB$(3),TECVOL$(3),TECFIL$(4),: JM
                  TECLIB$(4),TECVOL$(4),TECFIL$(5),TECLIB$(5)          JM
         $UNPACK (F=F5$) BUFF4$ TO TECVOL$(5),TECFIL$(6),TECLIB$(6),: JM
                  TECVOL$(6),TECFIL$(7),TECLIB$(7),TECVOL$(7)          JM
          CLOSE #2                                                     JM
          GOTO IT                                    /* RETURN */      JM
                                                                       JM
   MISS:                                                               JM
          OPEN NOGETPARM #2, IO, FILE=FILO$,LIBRARY = INLIB$,        : JM
           VOLUME=INVOL$                                               JM
          BUFF1$ = RGL$ & PREP_CNT$ & PASSV$ & LNG_SEN$ & LNG_PAR$ &: JM
         LNGWDS$ & LNGSNT$ & NEG$ & UNCOM$ & NUM_SUBZ$ & INT_ANL$ & : JM
           NP$ & ADVFN$ & PERS_SENT$ & LNG_CLS$ & TRNK_PV$             JM
         BUFF2$ = STR(TECFIL$(1),1,8) & STR(TECLIB$(1),1,8) &        : JM
    STR(TECVOL$(1),1,6) & STR(TECFIL$(2),1,8) & STR(TECLIB$(2),1,8) : JM
                  & STR(TECVOL$(2),1,6) & STR(TECFIL$(3),1,8)          JM
         BUFF3$ = STR(TECLIB$(3),1,8) & STR(TECVOL$(3),1,6) &        : JM
    STR(TECFIL$(4),1,8) & STR(TECLIB$(4),1,8) & STR(TECVOL$(4),1,6) : JM
                  & STR(TECFIL$(5),1,8) & STR(TECLIB$(5),1,8)          JM
         BUFF4$ = STR(TECVOL$(5),1,6) & STR(TECFIL$(6),1,8) &        : JM
    STR(TECLIB$(6),1,8) & STR(TECVOL$(6),1,6) & STR(TECFIL$(7),1,8) : JM
                  & STR(TECLIB$(7),1,8) & STR(TECVOL$(7),1,6)          JM
         $PACK (F=F1$) BUFF$ FROM BUFF1$, BUFF2$, BUFF3$, BUFF4$       JM
          READ #2, HOLD, BUFF9$                                        JM
          REWRITE #2, BUFF$                                            JM
          CLOSE #2                                                     JM
          GOTO IT                                                      JM
   PROB1:                                                              JM
             PRINT AT(23,1), "I/O ERROR ON DEFAULTS FILE, #1.  FILE";: JM
               " STATUS IS : "; FS(#1)                                 JM
                STOP "PRESS ENTER TO CONTINUE"                         JM
                CLOSE #1                                               JM
                GOTO IT                                                JM
                                                                       JM
   PROB2:    PRINT AT(23,1), "I/O ERROR ON DEFAULTS FILE, #2"        : JM
                ;". FILE STATUS IS : ";FS(#2)                          JM
                STOP "PRESS ENTER TO CONTINUE"                         JM
                CLOSE #2                                               JM
                                                                       JM
   IT:    END                                                          JM
```

Document and Word List Selection (SCRENZ)

SCRENZ in library CRES@SRC is the BASIC language program to allow user selection of the document to be analyzed and the names of the Common Word List, Word Substitution List, and Phrase Substitution List to be used by the CRES Analysis program. Default values are supplied, and may be changed by the user if desired. The program verifies that the document and lists selected actually exist. The object language version is SCRENZ in library CRES@SAV.

A complete program listing follows.

```
Wang VS Integrated Editor - Version  6.10.00       15:36 11/13/84   Page      1
Input File is SCREEN   in Library CRES@SRC on Volume CRES02

000010   SUB "SCRENZ"  (COMFIL$,COMLIB$,COMVOL$,WRDFIL$,WRDLIB$,WRDVOL$,! JM
000020      PHRFIL$,PHRLIB$,PHRVOL$,DOCFIL$,DOCLIB$,DCVOL$,PAG_TITL$,   ! JM
000030      LIB$,REG%,INLIB$,INVOL$)                                      JM
000040
000050    SELECT #1,"CMNWDLST",VARC,INDEXED,RECSIZE=40,                 !
000060            KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR1
000070    SELECT #2, "WRDSBLST",VARC,INDEXED,RECSIZE=80,                !
000080            KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR2
000090    SELECT #3, "PHRSBLST",VARC,INDEXED,RECSIZE=70,                !
000100            KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR3
000120 DIM WRDFIL$8,WRDLIB$8,WRDVOL$6,FG$(6)01,LIB$1
000130 DIM PHRFIL$8,PHRLIB$8,PHRVOL$6
000140 DIM COMFIL$8,COMLIB$8,COMVOL$6,OPEN%(3)
000150 DIM AY$2,E$65,FER$1,A$8,B$16,C$24,D$22,BUFF$50                     JM
000151 E$=" "                                                             JM
000160 ENTER$="ENTER"
000170 PF$="PF16"
000171 MAT OPEN%    = ZER
000180 COMFIL$="CMNWDLST"
000190 PHRFIL$="PHRSBLST"
000200 WRDFIL$="WRDSBLST"
000220 DOCLIB$=" "
000230 *  COMLIB$,PHRLIB$,WRDLIB$="CRES@DAT"                              JM
000240 *  COMVOL$,PHRVOL$,WRDVOL$="FIXVOL"                                JM
000250 FG$()=ALL(HEX(81))  :FG$(4)=HEX(82) :FG$(5)=HEX(80)
000260 FER$=HEX(8C)
000270 A$="Document"
000280 B$="Common Word List"
000290 C$="Phrase Substitution List"
000300 D$="Word Substitution List"
000310 SCREEN1:                                                           JM
000315 ACCEPT                                                           ! JM
000320        AT (01,03),                                               !
000330 "CRES: Document Analysis Subsystem    (Document & Word Lists Sele!
000340 ction Screen)",                                                  !
000350        AT (02,03),                                               !
000360 "=================================================================!
000370 =============",                                                  !
000380        AT (04,10),                                               !
000390 "Welcome to the Document Analysis Option.  Please identify the", !
000400        AT (05,10),                                               !
000410 "document to be analyzed and identify the Common Word List,",    !
000420        AT (06,10),                                               !
000430 "Phrase Substitution List, and the Word Substitution List ",     !
000440        AT (07,10),                                               !
000450 "to be used, if the defaults are not satisfactory.  If desired,",!
000460        AT (08,10),                                               !
000470 "input a title to be printed on each page.",                     !
000480        AT (10,10),FAC(HEX(8C)),                                  !
000490 A$,                                                              !
000500        AT (10,19), ":",                                          !
000510        AT (11,12),                                               !
000520 "FILE :",                                                        !
000530        AT (11,20), FAC(FG$(04)), DOCFIL$      , CH(04),          !
000540        AT (11,32),                                               !
000550 "LIBRARY :",                                                     !
000560        AT (11,43), FAC(FG$(05)), LIB$         , CH(01),          !
```

```
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Input File is SCREEN   in Library CRES@SRC on Volume CRES02

000570         AT (11,55),
000580 "VOLUME :",
000590         AT (11,65), FAC(FG$(06)), DCVOL$       , CH(06),
000600         AT (13,10), FAC(HEX(8C)),
000610 B$, AT (13,27),":",
000620         AT (14,12),
000630 "FILE :",
000640         AT (14,20), FAC(FG$(01)), COMFIL$      , CH(08),
000650         AT (14,32),
000660 "LIBRARY :",
000670         AT (14,43), FAC(FG$(01)), COMLIB$      , CH(08),
000680         AT (14,55),
000690 "VOLUME :",
000700         AT (14,65), FAC(FG$(01)), COMVOL$      , CH(06),
000710         AT (15,10), FAC(HEX(8C)),
000720 C$, AT(15,35), ":",
000730         AT (16,12),
000740 "FILE :",
000750         AT (16,20), FAC(FG$(02)), PHRFIL$       , CH(08),
000760         AT (16,32),
000770 "LIBRARY :",
000780         AT (16,43), FAC(FG$(02)), PHRLIB$       , CH(08),
000790         AT (16,55),
000800 "VOLUME :",
000810         AT (16,65), FAC(FG$(02)), PHRVOL$       , CH(06),
000820         AT (17,10), FAC(HEX(8C)),
000830 D$, AT(17,33), ":",
000840         AT (18,12),
000850 "FILE :",
000860         AT (18,20), FAC(FG$(03)), WRDFIL$       , CH(08),
000870         AT (18,32),
000880 "LIBRARY :",
000890         AT (18,43), FAC(FG$(03)), WRDLIB$       , CH(08),
000900         AT (18,55),
000910 "VOLUME :",
000920         AT (18,65), FAC(FG$(03)), WRDVOL$       , CH(06),
000930         AT (20,10),
000940 "Title:",
000950         AT (21,11), PAG_TITL$     , CH(60),
000960         AT (22,04),                                              JM
000965          FAC(FER$), E$             , CH(65),                     JM
000970         AT (23,28),
000980 "Press",
000990         AT (23,34), FAC(HEX(84)), ENTER$,
001000         AT (23,40),
001010 "to continue",
001020         AT (24,18), "Press",
001030         AT (24,24), FAC(HEX(84)), PF$,
001040         AT (24,29),
001050 "to return to the CRES Master Menu",
001060 KEYS(HEX(001020)), KEY(RE%),
001070 ON (BIN(16)&BIN(32)) GOTO GONE,GONE
001080
001081    E$=" "    :FER$=HEX(8C)                                       JM
001090    FLAG% = 0 : DOCLIB$="         "
001100
001110 /*  SEE IF FILES EXIST THAT THE USER INPUT                     */
```

```
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Input File is SCREEN   in Library CRES@SHC on Volume CRES02

001120
001130    IF LIB$ > "Z" THEN DOCLIB$ = "DOCMNT" & LIB$ & LIB$               !
001140                  ELSE DOCLIB$ = "DOCMNT" & LIB$
001150    TRAN (DOCLIB$,                                                    !
001160  "AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz")REPLACING
001170
001180    CALL "LIMITS"(DOCFIL$,DOCLIB$,DCVOL$,RC$,MSG$)
001190    IF RC$ = "Y" THEN LP
001200    FG$(4)=HEX(92) : FG$(5)=HEX(90) : FG$(6)=HEX(91)
001210    GOTO SCREEN1
001220
001230 LP: IF COMFIL$="CMNWDLST" AND COMLIB$=INLIB$     AND COMVOL$=       ! JM
001240           INVOL$ THEN NI                                              JM
001250         IF COMFIL$="  " OR COMLIB$="     " OR COMVOL$="  " THEN NIS
001260         FLAG% = 1
001270         CALL "LIMITS"(COMFIL$,COMLIB$,COMVOL$,RC$,MSG$)
001280         IF RC$="Y" THEN NI
001290 NIS:    FG$()=ALL(HEX(81))  :FG$(4)=HEX(82) :FG$(5)=HEX(80)
001300         FER$=HEX(94)
001310         E$="Common Word List "& STR(COMFIL$,1,8) &" in " &          !
001320         STR(COMLIB$,1,8) & " on "& STR(COMVOL$,1,6) &               !
001330         " does not exist."
001340         COMFIL$="CMNWDLST" :COMLIB$=INLIB$ :COMVOL$=INVOL$            JM
001350         FLAG%=0
001360         GOTO SCREEN1
001370
001380 NI: IF PHRFIL$="PHRSBLST" AND PHRLIB$=INLIB$ AND PHRVOL$= INVOL$ ! JM
001390            THEN NI2                                                   JM
001400     IF PHRFIL$="     " OR PHRLIB$="     " OR PHRVOL$="   " THEN NIS2
001410         FLAG% = FLAG%+2
001420         CALL "LIMITS"(PHRFIL$,PHRLIB$,PHRVOL$,RC$,MSG$)
001430         IF RC$="Y" THEN NI2
001440 NIS2:   FG$()=ALL(HEX(81))  :FG$(4)=HEX(82) :FG$(5)=HEX(80)
001450         FER$=HEX(94)
001460         E$="Phrase Sub. List "& STR(PHRFIL$,1,8) & " in "&          !
001470         STR(PHRLIB$,1,8) & " on "& STR(PHRVOL$,1,6) &               !
001480         " does not exist."
001490         PHRFIL$="PHRSBLST" :PHRLIB$=INLIB$ :PHRVOL$=INVOL$            JM
001500         FLAG%=0
001510         GOTO SCREEN1
001520
001530 NI2:IF WRDFIL$="WRDSBLST" AND WRDLIB$=INLIB$ AND WRDVOL$=INVOL$  ! JM
001540                 THEN NI3                                              JM
001550     IF WRDFIL$="     " OR WRDLIB$="     " OR WRDVOL$="  " THEN NIS3
001560         FLAG%=FLAG%+4
001570         CALL "LIMITS"(WRDFIL$,WRDLIB$,WRDVOL$,RC$,MSG$)
001580         IF RC$="Y" THEN NI3
001590 NIS3:   FG$()=ALL(HEX(81))  :FG$(4)=HEX(82) :FG$(5)=HEX(80)
001600         FER$=HEX(94)
001610         E$="Word Sub. List "& STR(WRDFIL$,1,8) &" in "  &           !
001620         STR(WRDLIB$,1,8) & " on " & STR(WRDVOL$,1,6) &              !
001630         " does not exist."                                            JM
001640         WRDFIL$="WRDSBLST" :WRDLIB$=INLIB$     :WRDVOL$=  INVOL$      JM
001650         FLAG%=0
001660         GOTO SCREEN1
001670 NI3:    /* IF WE COME HERE, WE KNOW THE THREE FILES EXIST. */         JM
001680        /* BUT ARE THEY THE KINDS OF FILES WE THINK THEY ARE? */
```

```
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Input File is SCREEN   in Library CRES@SRC on Volume CRES02

001690
001700      CALL "READFDR" ADDR(COMFIL$,COMLIB$,COMVOL$,0%,"RS",REC%,RET%)
001710      IF REC%<>40 THEN ER1
001711      OPEN%(1)=1
001720      OPEN NOGETPARM #1, SHARED, FILE=COMFIL$,                        !
001730           LIBRARY=COMLIB$, VOLUME=COMVOL$
001740      READ #1, BUFF$
001750      IF STR(BUFF$,1,13)=" COMMON WORDS" THEN TRY
001760 ER1:E$="File "&STR(COMFIL$,1,8)& " in "&STR(COMLIB$,1,8)&" on "& ! JM
001770      STR(COMVOL$,1,6) & " is not a Common Word List."
001780      COMFIL$="CMNWDLST" :COMLIB$ = INLIB$ :COMVOL$ = INVOL$            JM
001790      FER$=HEX(94)
001800      IF OPEN%(1)=1 THEN CLOSE #1
001801      OPEN%(1)=0
001810      GOTO SCREEN1
001820
001830 TRY:CALL "READFDR" ADDR(WRDFIL$,WRDLIB$,WRDVOL$,0%,"RS",REC%,RET%)
001840      IF REC%<>80 THEN ER2
001841      OPEN%(2)=1
001850      OPEN NOGETPARM #2, SHARED, FILE=WRDFIL$,                        !
001860           LIBRARY=WRDLIB$, VOLUME=WRDVOL$
001870      READ #2, BUFF$
001880      IF STR(BUFF$,1,18)=" WORD SUBSTITUTION" THEN AGN
001890 ER2:E$="File "&STR(WRDFIL$,1,8)&" in "&STR(WRDLIB$,1,8)&" on " & ! JM
001900      STR(WRDVOL$,1,6) & " is not a Word Sub. List."                    JM
001910      WRDFIL$="WRDSBLST" :WRDLIB$= INLIB$ :WRDVOL$= INVOL$              JM
001920      FER$=HEX(94)
001921      IF OPEN%(1)=1 THEN CLOSE #1
001926      IF OPEN%(2)=1 THEN CLOSE #2
001930      MAT OPEN% = ZER
001940      GOTO SCREEN1
001950
001960 AGN:CALL "READFDR" ADDR(PHRFIL$,PHRLIB$,PHRVOL$,0%,"RS",REC%,RET%)
001970      IF REC%<>70 THEN ER3
001971        OPEN%(3)=1
001980        OPEN NOGETPARM #3, SHARED, FILE=PHRFIL$,                      !
001990           LIBRARY=PHRLIB$, VOLUME=PHRVOL$
002000      READ #3, BUFF$
002010      IF STR(BUFF$,1,20)=" PHRASE SUBSTITUTION" THEN AGAN1
002020 ER3:E$="File "&STR(PHRFIL$,1,8)&" in "& STR(PHRLIB$,1,8) &" on "&! JM
002030      STR(PHRVOL$,1,6) & " is not a Phrase Sub. List."                  JM
002040      PHRFIL$="PHRSBLST" :PHRLIB$= INLIB$ :PHRVOL$= INVOL$              JM
002050      FER$=HEX(94)
002051      FOR J%=1 TO 3
002061      IF OPEN%(J%)=1 THEN CLOSE #J%      :NEXT J%
002062      MAT OPEN% = ZER
002070      GOTO SCREEN1
002080 AGAN1: CLOSE #1 :CLOSE#2  :CLOSE#3
002090         GOTO GONE
002100 IO_ERR1: PRINT AT(23,1), "I/O ERROR ON COMMON WORD LIST FILE, #1"!
002110               ;".  FILE STATUS IS : ";FS(#1)
002120               STOP "PRESS ENTER TO CONTINUE"
002130             CLOSE #1 :CLOSE #2 :CLOSE #3 : GOTO SCREEN1
002140
002150 IO_ERR2: PRINT AT(23,1), "I/O ERROR ON WORD SUBST. LIST FILE, #2"!
002160               ;".  FILE STATUS IS : "; FS(#2)
002170               STOP "PRESS ENTER TO CONTINUE"
```

```
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Input File is SCREEN   in Library CRES@SRC on Volume CRES02

002180            CLOSE #1 : CLOSE #2  :CLOSE #3  :GOTO SCREEN1
002190
002200 IO_ERR3: PRINT AT(23,1), "I/O ERROR ON PHRASE SUBST. LIST FILE"; !
002210             " #3.  FILE STATUS IS : ";FS(#3)
002220             STOP "PRESS ENTER TO CONTINUE"
002230            CLOSE #1 :CLOSE #2 :CLOSE #3  :GOTO SCREEN1
002240 GONE: IF RE%=16 OR RE%=32 THEN REG%=0 ELSE REG%=1
002250       END
```

Document Analysis (ANALYSIS)

ANALYSIS in library CRES@SRC is the BASIC language program which performs the CRES analysis of a specified document. The object language version is ANALYSIS in library CRES@SAV. The analysis program is by far the most complex program in the CRES system, and it will be discussed in detail below.

At the start of the analysis program, it is necessary to initialize variables, set defaults, initialize the volumes and libraries and set up User File Blocks for each file to be used. Variables are initialized by specific assignments at the beginning of the program and by the internal subroutine INIT. Defaults are set by calling the external subroutine KIKOFF, which checks for the existence of a defaults file for the particular user. (See discussion of KIKOFF for details.) Volume and library variables are initialized using "EXTRACT", a Wang system utility. User File Blocks are established using BASIC "SELECT" commands.

The program next provides three screens, which are utilized to specify the document to be analyzed and the options to be employed in the analysis.

The first screen accepts the name of the document to be analyzed, and displays the default values for the Common Word List, the Word Substitute List and the Phrase Substitute List. Any of these defaults may be changed, and all file names are tested by the program to verify that they exist and are of the correct type.

The second screen accepts up to seven technical word lists to be used in the analysis, and these file names are verified to ensure data integrity.

The third screen presents all the possible options for a CRES analysis and presents default values. These defaults are the ones established for each user by the external subroutine KIKOFF the first time an analysis is run under that user ID. Any combination of the possible options may be selected. The options available to the user are:

- Report the Reading Grade Level of the document.
- Count the prepositions and flag sentences with "too many" prepositions. (If there are more than 2 prepositions in the sentence, and the ratio of total words in the sentence to prepositions is less than 5.4, the sentence is defined as containing "too many" prepositions.)

- Flag passive voice. (A form of the verb "to be", followed by a past participle and immediately followed or preceded by the word "by", is defined as the full passive voice construction and flagged as such.)
- Flag long sentences. (If there are more than 22 words in the sentence it is considered a long sentence.)
- Flag long paragraphs. (If long paragraphs are to be flagged, the user has the option of specifying the maximum number of words and the maximum number of sentences to be allowed before the paragraph is flagged as long. The default values are 200 words or 10 sentences. The paragraph will be flagged after either maximum is encountered.)
- Flag double negatives.
- Flag and list uncommon words.
- Include substitutes. (If a substitute for a word or phrase appears on either the Word or Phrase Substitution List, the listed substitute(s) will be printed in brackets immediately following the given word or phrase.)
- Interim analyses. (If a lengthy text is to be analyzed, it may be desirable to perform interim analyses. A final, overall analysis will still be printed at the end of the report. The user can specify the number of pages between interim analyses. The default value is five pages.)
- Check personal sentences. (All sentences containing the words "you", "your", "I", "we", "my", or "our" are defined as personal sentences. At the end of the analysis printout, the total percentage of personal sentences contained in the text will be printed out.)
- Flag truncated passive voice. (Any form of the verb "to be", followed by a past participle, forms the truncated passive voice and will be flagged as such.)

In addition to these options, an automatic provision is made for flagging possible lists since they are considered highly undesirable in certain technical writing applications. Whenever the phrase "consist(s) of" appears in a long sentence, followed by three or more commas, the query "LIST?" will be printed in the analysis.

After the user has entered the desired values on the third screen, tests are performed to ensure only logically correct selections have been made. Once all selections are ascertained to be valid, if a default file does not already exist, the program calls KIKOFF to store the current selections as the default values for that user. All technical word list names, as well as the analysis options specified, are inserted into this file. The default file name is formed by concatenating the user ID and the string "DFLTS", and it is stored in library CRES@DAT. The original defaults may be changed for any given analysis; however, the default file will remain unchanged and subsequent analyses will have the original defaults presented. To change the default file permanently, the user should scratch the existing default file through the "MANAGE FILES/LIBRARIES" capability of the Command Processor. Then, a new defaults file will be generated on the next analysis run using that user ID.

The analysis program must open each specified file. An output file, ANALYS##, is created and opened. The first analysis run will be ANALYS00, and subsequent runs will be numbered consecutively. A header is generated for this file which includes information on all files and options which have been selected. All variables for the analysis are initialized by the internal subroutine SETUP.

The text analysis proceeds word by word. The program uses the Wang VS word processing subroutines to access each word. If an End of File (EOF) is encountered, the current output line is ended and added to the output file. Final analysis results and an Uncommon Word List are also added, if those options were selected. If an EOF is not found, then the program calls the internal subroutine SPUNK. SPUNK strips leading and trailing punctuation or invalid characters from around the word. The internal subroutine SYLLY is then called to calculate the syllable count for this word. The syllables of the word are counted, using a number of both general and specific algorithms.

The syllable count is obtained by starting with the general rule that there is one syllable per vowel. Specific exceptions are made for the case of diphthongs or final "e"s. Then, provision is made for the exceptions to these cases. Certain syllables, or certain vowel and consonant patterns, have been found to be exceptions to these general rules, and separate provision is made for them. The words "area" and "areas" are exceptions to the evaluation algorithms but occur with sufficient frequency to make it worthwhile to treat them as a special case.

The most efficient method of counting syllables was derived by combining a syllable count taken from the beginning of the word forward, together with one taken from the end of the word backward. Endings are stripped from the word, counted for the syllable count, and their letters removed from further consideration. Specific suffixes and prefixes are recognized and their syllables added to the count. A complete list of the special cases treated can be derived by consulting the code for the subroutine SYLLY in the ANALYSIS listing which follows this discussion.

For the purposes of the CRES analysis, certain words are defined as having only one syllable. The numbers one through nine are counted as one syllable each. Any word with a numeral appearing somewhere within it is also counted as having one syllable. Words which appear on a selected technical word list will have their Mandatory Technical Word flag checked. If the word is flagged as a Mandatory Technical Word, it is counted as a single syllable.

Certain information is obtained about the current word in the SPUNK and SYLLY subroutines of the ANALYSIS program. Appropriate flags are set as the information is obtained. If the word is found to contain invalid characters it is placed on the Uncommon Word List, if that option had been selected, and not processed any further. An invalid word will have no substitute listed in the Word Substitution List, and neither can it be part of a phrase included in the Phrase Substitution List. The invalid word, and any preceding words in the phrase buffer, can be added to the output line without further consideration.

If the word appears to be valid, each specified word list is searched for it until either the word is found or the lists are exhausted. If the word is not found on one of these lists, and if the option to flag and list uncommon words has been selected, then the word will be included on the Uncommon Word List. Uncommon words will not be analyzed any further. Any word which is found in the Acronym or Abbreviation Glossary is also exempted from further analysis.

If the word is found in one of the other lists, its attributes can be evaluated. Flags are set for later determination of preposition count, full or truncated passive voice, or double negatives, depending on the analysis options selected by the user. If the option to include substitutes has been selected, each word is considered as part of a possible phrase on the Phrase Substitution List. A phrase buffer holds the partial phrase as it is being constructed. As each word is added to the phrase buffer, the potential phrase is matched against the Phrase Substitution List. When a phrase is either completed or aborted by an ineligible word, the contents of the phrase buffer are added to an output buffer which holds the line of output text currently being built. If the option to include substitutes has not been selected, each word is immediately added to the output line being built. This output line is comprised of the original text and punctuation, with any of the editing suggestions and readability counts generated by the analysis.

After each page of output is generated, the user options are checked to determine whether an interim output should be printed. When the end of the document has been reached, if an interim analysis had been specified it is printed. Then the final reading grade level analysis and uncommon word list is generated. If no interim analyses were requested, only the final reading grade level analysis and uncommon word list are generated. In either case, normal indication of characteristics specified in the option selection such as uncommon words, passive voice, or long sentences will appear throughout the text.

Figure 4 presents a flowchart of the analysis program. A complete program listing with variable dictionary follows. A sample input text and the resultant CRES analysis output are included in appendix D.

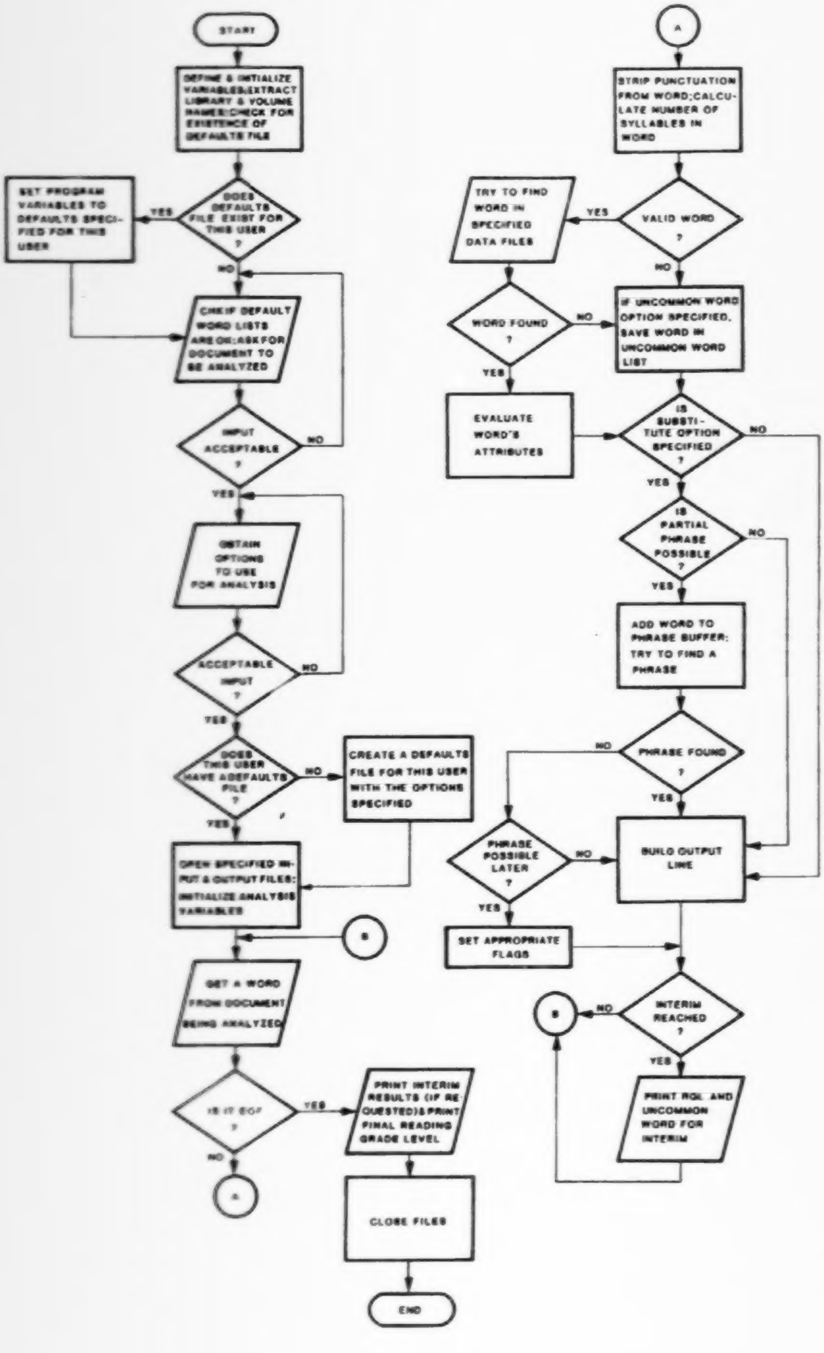
START
DEFINE & INITIALIZE VARIABLES;EXTRACT LIBRARY & VOLUME NAMES;CHECK FOR EXISTENCE OF DEFAULTS FILE
DOES DEFAULTS FILE EXIST FOR THIS USER ?
YES
SET PROGRAM VARIABLES TO DEFAULTS SPECIFIED FOR THIS USER
NO
CHK IF DEFAULT WORD LISTS ARE OK;ASK FOR DOCUMENT TO BE ANALYZED
INPUT ACCEPTABLE ?
NO
YES
OBTAIN OPTIONS TO USE FOR ANALYSIS
ACCEPTABLE INPUT ?
NO
YES
DOES THIS USER HAVE A DEFAULTS FILE ?
NO
CREATE A DEFAULTS FILE FOR THIS USER WITH THE OPTIONS SPECIFIED
YES
OPEN SPECIFIED INPUT & OUTPUT FILES: INITIALIZE ANALYSIS VARIABLES
B
GET A WORD FROM DOCUMENT BEING ANALYZED
IS IT EOF ?
YES
PRINT INTERIM RESULTS (IF REQUESTED)& PRINT FINAL READING GRADE LEVEL
CLOSE FILES
END
NO
A
A
STRIP PUNCTUATION FROM WORD;CALCULATE NUMBER OF SYLLABLES IN WORD
VALID WORD ?
YES
TRY TO FIND WORD IN SPECIFIED DATA FILES
WORD FOUND ?
NO
YES
EVALUATE WORD'S ATTRIBUTES
NO
IF UNCOMMON WORD OPTION SPECIFIED, SAVE WORD IN UNCOMMON WORD LIST
IS SUBSTITUTE OPTION SPECIFIED ?
NO
YES
IS PARTIAL PHRASE POSSIBLE ?
NO
YES
ADD WORD TO PHRASE BUFFER: TRY TO FIND A PHRASE
PHRASE FOUND ?
NO
YES
PHRASE POSSIBLE LATER ?
NO
YES
SET APPROPRIATE FLAGS
BUILD OUTPUT LINE
INTERIM REACHED ?
NO
B
YES
PRINT RGL AND UNCOMMON WORD FOR INTERIM

Figure 4. CRES Analysis Program Flowchart.

```
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Input File is ANALYSIS in Library CRES@SRC on Volume CRES01

000010 /**************************************************************/ JM
000020 /* PROGRAM : ANALYSIS                        REVISED : 11/18/83 */ JM
000030 /* PROGRAMED BY: JOHN MEARS, LESLIE MONTGOMERY & SUSAN SCHALOW  */ JM
000040 /*                                                             */ JM
000050 /* THIS IS THE ANALYSIS PROGRAM FOR THE VS CRES SYSTEM.         */ JM
000060 /* THIS PROGRAM ALLOWS THE USER TO SPECIFY THE DOCUMENT         */ JM
000070 /* TO BE ANALYZED, AND TO SPECIFY THE OPTIONS FOR THE           */ JM
000080 /* ANALYSIS.  ALL NECESSARY WORD LISTS AND FILES ARE            */ JM
000090 /* OPENED, PREPATORY TO PERFORMING THE ANALYSIS.                */ JM
000100 /*                                                             */ JM
000110 /* NOTE: WPSBRTNB IN LIBRARY @LINKLIB, KICKOFF IN LIBRARY       */ JM
000120 /*       --------            --------  -------                 */ JM
000130 /*       CRES@SAV, SCREEN IN LIBRARY CRES@SAV, AND TITLPAGE     */ JM
000140 /*       --------  ------            --------      --------     */ JM
000150 /*     IN LIBRARY CRES@SAV ARE LINKED THROUGH THE FILES OPTION. */ JM
000160 /*                --------                                     */ JM
000170 /*      WPSBRTNB HANDLES ALL WORD PROCESSING COMMANDS.          */ JM
000180 /*      KICKOFF  HANDLES THE DEFAULTS FILE FOR USER DEFAULTS.   */ JM
000190 /*      SCREEN  HANDLES THE FIRST SCREEN ASKING FOR FILENAMES.  */ JM
000200 /*      TITLPAGE HANDLES THE HEADER FOR THE OUTPUT FILE.        */ JM
000210 /*                                                             */ JM
000220 /**************************************************************/ JM
000230    DIM DOCFIL$8, DOCLIB$8, DOCVOL$6, TECFIL$(7)8, TECLIB$(7)8      JM
000240    DIM TECVOL$(7)6, PAG_TITL$60, OPEN%(13), RC$1, MSG$40, LIB$1    JM
000250    DIM RGL$1, PREP_CNT$1, PASSV$1, LNG_PAR$1,IOBUF$190,L$1         JM
000260    DIM UNCOM$1, NEG$1, INT_ANL$1, NUM_SUB$1, FC$(10)1              JM
000270    DIM ADVFN$1, LNG_CLS$1, PERS_SENT$1, LNG_SEN$1,ABBRE$(500)20    JM
000280    DIM ID$5, PRINTFL$8, PLIB$8, PVOL$6,TABLE$(256)1                JM
000290    DIM WORDP$24,TITLBUF$77,UCW$(500)20,UCWCT%(500),C$2,LW%(5)      JM
000300    DIM UCWFLG$(5)1,LSENT%(5),PREPFL%(5),PASSVF$(5)1,DNFL$(5)1      JM
000310    DIM NOUNFL$(5)1,LCLSFL%(5),SAVPH$(5)20,SAVPHL%(5),WSL$1         JM
000320    DIM LAST$1,NP$2,TRNK_PV$1,SAVSYL%(5),LNGWDS$3,LNGSNT$2          JM
000330    DIM NUM_SUBZ$1,ENTER$5,PF$4,PF1$3,PF15$4,Q$1,RUNLIB$8,RUNVOL$6  JM
000340    DIM ER$79,MSG2$40,MSK$2,CMSG$255,WORDQ$24,BUFFA$(40)77,RE$1     JM
000350    DIM UNC$(20)20,F1$4,E$65,FX$1,IOBUFF$40,INLIB$8,INVOL$6         JM
000360                                                                    JM
000370 /**************************************************************/ JM
000380 /*                                                             */ JM
000390 /*  VARIABLE DICTIONARY FOR PROGRAM ANALYSIS:                  */ JM
000400 /*  =======================================                    */ JM
000410 /*                                                             */ JM
000420 /*  ABBRE$ : ARRAY TO HOLD COMMONLY USED ABBREVIATIONS AND     */ JM
000430 /*           MNEMONICS;                                        */ JM
000440 /*  ABBRE% : LENGTH OF ABBRE$ ARRAY;                           */ JM
000450 /*  ADVFN$ : A FLAG TO TELL IF ADVANCED FUNCTIONS ARE REQUESTED;*/ JM
000460 /*  BEGINY$ : USED TO COMPUTE STARTING PAGE NUMBER FOR PRTRGL;  */ JM
000470 /*  BLANK$ : A FLAG USED TO CATCH PHRASES WITHOUT SUBSTITUTES;  */ JM
000480 /*  BP% : BREAK POINT;                                         */ JM
000490 /*  BUFFA$ : BUFFER TO PASS BACK INFO FOR PRINTFILE HEADER;    */ JM
000500 /*  BUFFER$ : BUFFER TO HOLD MESSAGE FOR INTERIM OR FINAL RGL  */ JM
000510 /*            REPORT;                                          */ JM
000520 /*  C$ : CONTROL CHARACTER FOR FORMAT STATEMENTS;              */ JM
000530 /*  CLSPOS$ : FLAG TO TELL IF END/START OF A CLAUSE; HAS VALUES */ JM
000540 /*            'B'=BEGINNING,'E'=END,'Y'=INTERMEDIATE;          */ JM
000550 /*  CW$ : COMMON WORD FLAG; HAS VALUES ' '=ALLRIGHT(COMMON WD.),*/ JM
000560 /*       'Y'=PHRASE FOUND, 'N'=UNCOMMON WORD, 'X'=RETRY        */ JM
000570 /*  D% : FLAG TO TELL US RETURN CODE FROM PRT_WDS              */ JM
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000580 /*  DNFL$ : AN ARRAY TO MARK THE LOCATION OF A DOUBLE NEGATIVE  */ JM
000590 /*          OCCURRENCE;                                         */ JM
000600 /*  DOCFIL$ : THE NAME OF THE INPUT DOCUMENT FILE;              */ JM
000610 /*  DOCLIB$ : THE NAME OF THE INPUT DOCUMENT LIBRARY;           */ JM
000620 /*  DOCVOL$ : THE NAME OF THE INPUT DOCUMENT VOLUME;            */ JM
000630 /*  ENDY$ : USED TO COMPUTE ENDING PAGE NUMBER FOR PRTRGL;      */ JM
000640 /*  END_O_PAR$ : END OF PARAGRAPH;                              */ JM
000650 /*  E_O_F$ : FLAG TO INDICATE END OF FILE;                      */ JM
000660 /*  FC$ : AN ARRAY OF FAC'S USED IN WORD LISTS SELECTION;       */ JM
000670 /*  FLAG% : A FLAG TO INDICATE TROUBLE IN FILE SELECTION IF     */ JM
000680 /*          FLAG%=1;                                            */ JM
000690 /*  FOUND$ : WORD IN WORD LIST FLAG; HAS VALUES ' '=CLEARING    */ JM
000700 /*           FLAG, 'Y'=WORD FOUND;                              */ JM
000710 /*  F1 : PERCENT OF UNCOMMON WORDS;                             */ JM
000720 /*  F2 : PERCENT OF LONG SENTENCES                              */ JM
000730 /*  HOME% : VARIABLE USED TO DETERMINE IF USER WISHES TO END    */ JM
000740 /*          ANALYSIS NOW;  HOME%=0 MEANS NO, =1 MEANS YES;      */ JM
000750 /*  ID$ : USED AS A PARAMETER FOR 'WPOPEN' STATEMENT; CREATED   */ JM
000760 /*        BY CONCATONATING DOCUMENT # WITH VOLUME LETTER;       */ JM
000770 /*  IDX% : POINTER IN UNCOMMON WORD TABLE;                      */ JM
000780 /*  IL% : POINTER TO ILINE$ TO SHOW POSITION IN INPUT LINE;     */ JM
000790 /*  ILINE$ : BUFFER TO HOLD EACH LINE OF INPUT;                 */ JM
000800 /*  INT_ANL$ : INTERIM ANALYSIS OPTION; TELLS US TO PRINT       */ JM
000810 /*             SUMMARY READING GRADE LEVEL;                     */ JM
000820 /*  INVLD$ : INVALID WORD FLAG; HAS VALUES ' ','Y'=INVALID WORD,*/ JM
000830 /*           'P'=NUMBER OR GARBAGE                              */ JM
000840 /*  IO% : POSITION IN OUTPUT LINE (OLINE$);                     */ JM
000850 /*  IOBUF$ : BUFFER USED TO READ INFO FROM THE ABBREVIATION/    */ JM
000860 /*           MNEMONIC LIST;                                     */ JM
000862 /*  IP% : POINTER TO THE PHRASE BUFFER;                         */ JM
000880 /*  IW% : A POINTER TO THE ARRAY OF WORDS LAST FOUND (WORDS$);  */ JM
000890 /*  L$ : VARIABLE USED TO CATCH TRAILING PUNCTUATION AND PLACE  */ JM
000900 /*       IT OUTSIDE OF THE SQUARE BRACKETS('[ ]') WHEN FLAGGING */ JM
000910 /*       UNCOMMON WORDS;                                        */ JM
000920 /*  L1%,L2% : VARIABLES USED TO EXTRACT SUBSTITUTES FROM WORD   */ JM
000930 /*            SUBSTITUTION LIST;                                */ JM
000940 /*  LAST$ : FLAG TO TELL IF INTERIM RGL HEADER NEEDED OR TOTAL  */ JM
000950 /*          RGL HEADER NEEDED;                                  */ JM
000960 /*  LC% : THE CURRENT LINE COUNT;                               */ JM
000970 /*  LEN% : WORD LENGTH;                                         */ JM
000980 /*  LIB$ : THE 1 CHARACTER WORD PROCESSING DOCUMENT LIBRARY     */ JM
000990 /*         INPUT BY THE USER; USED TO CREATE THE 8 CHARACTER    */ JM
001000 /*         DOCLIB$ VARIABLE;                                    */ JM
001010 /*  LIST% : A COUNTER OF COMMAS IN LONG SENTENCES FOR 'LIST?'   */ JM
001020 /*          REMARK IN LONG SENTENCES;                           */ JM
001030 /*  LL% : LINE LENGTH;                                          */ JM
001040 /*  LNGSNT$ : THE NUMBER OF SENTENCES TO FLAG A LONG SENTENCE;  */ JM
001050 /*  LNGWDS$ : THE NUMBER OF WORDS TO FLAG A LONG SENTENCE;      */ JM
001060 /*  LNG_CLS$ : LONG CLAUSE OPTION;                              */ JM
001070 /*  LNG_PAR$ : LONG PARAGRAPH OPTION;                           */ JM
001080 /*  LNG_SEN$ : LONG SENTENCE OPTION;                            */ JM
001090 /*  LP% : LINES PER PAGE; SET AT 50;                            */ JM
001100 /*  LS% : NUMBER OF LONG SENTENCES;                             */ JM
001110 /*  LSENT%() : AN ARRAY USED TO MARK THE COUNT AND WHERE THE    */ JM
001120 /*             END OF A LONG SENTENCE FALLS;                    */ JM
001130 /*  LW%() : ARRAY TO HOLD THE LENGTH OF EACH WORD IN WORDS$;    */ JM
001140 /*  MSG$ : THE MESSAGE RETURNED BY THE "LIMITS" SUBROUTINE;     */ JM
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001150 /*  NC% : NUMBER OF WORDS PER CLAUSE;                                   */ JM
001160 /*  NEG$ : NEGATIVE OPTION FLAG;                                        */ JM
001170 /*  NEG(1) : IF = 2 THEN DOUBLE NEGATIVE COUNT;                         */ JM
001180 /*  NEG(2) : DITTO;                                                     */ JM
001190 /*  NEG(3) : NEGATIVE FLAG;                                             */ JM
001200 /*  NP$ : (CHARACTER) PAGES TO ANALYZE BEFORE REPORTING RGL;            */ JM
001210 /*  NP% : (INTEGER) PAGES TO ANALYZE BEFORE REPORTING RGL;              */ JM
001220 /*  NSW : NUMBER OF SYLLABLES PER WORD;                                 */ JM
001230 /*  NUM_SUB$ : NUMBER OF SUBSTITUTES OPTION; INITIALIZED TO 2;          */ JM
001240 /*  NWS : NUMBER OF WORDS PER SENTENCE;                                 */ JM
001250 /*  OLINE$ : THE OUTPUT LINE BUFFER;                                    */ JM
001260 /*  OPEN% : AN ARRAY OF FLAGS TO INDICATE WHICH FILES ARE OPEN;         */ JM
001270 /*  PAG_TITL$ : PAGE TITLE INPUT BY USER;                               */ JM
001280 /*  PASSV$ : REGULAR PASSIVE VOICE OPTION FLAG;                         */ JM
001290 /*  PASSV% : PASSIVE FLAG; 0=CLEAR, 7=FLAG SET;                         */ JM
001300 /*  PASSVF$ : AN ARRAY TO MARK THE LOCATION (IN A SENTENCE) OF          */ JM
001310 /*            PASSIVE OR TRUNCATED PASSIVE VOICE;                       */ JM
001320 /*  PC% : PAGE COUNT;                                                   */ JM
001330 /*  PE% : PERSONAL SENTENCE COUNT;                                      */ JM
001340 /*  PERSENT$ : PERSONAL SENTENCES;                                      */ JM
001350 /*  PERS_SENT$ : PERSONAL SENTENCE OPTION;                              */ JM
001360 /*  PFLAG% : FLAG TO ASSIST WITH PRTLNE SUBROUTINE; TELLS US            */ JM
001370 /*           THE STATUS AFTER RETURN;                                   */ JM
001380 /*  PHCT% : A COUNT OF SAVED WORDS FROM POSSIBLE PHRASES;               */ JM
001390 /*  PLIB$ : THE LIBRARY THAT THE OUTPUT FILE GOES IN;                   */ JM
001400 /*  PREPFL%() : AN ARRAY USED TO MARK IF THERE ARE TOO MANY             */ JM
001410 /*              PREPOSITIONS, THE AMOUNT OF PREPOSITIONS, AND           */ JM
001420 /*              THE LOCATION IN THE SENTENCE OF THE MARKING;            */ JM
001430 /*  PREP_CNT$ : PREPOSITION COUNT OPTION;                               */ JM
001440 /*  PRINTFL$ : THE FILENAME OF THE OUTPUT PRINT FILE;                   */ JM
001450 /*  PS% : PREPOSITION COUNT FOR EACH SENTENCE;                          */ JM
001460 /*  PVOL$ : THE VOLUME THAT THE OUTPUT FILE GOES IN;                    */ JM
001470 /*  RC$ : THE RETURN CODE FROM THE "LIMITS" SYSTEM SUBROUTINE;          */ JM
001480 /*  RECORD$ : THE RECORD FOUND ON A WORD LIST OF THE SPECIFIC           */ JM
001490 /*            WORD WE'RE LOOKING FOR;                                   */ JM
001500 /*  REC1$ : THE RECORD FOUND CONTAINING THE SPECIFIC WORD AND           */ JM
001510 /*          UP TO TWO SUBSTITUTES;                                      */ JM
001520 /*  RGL$ : READING GRADE LEVEL OPTION;                                  */ JM
001530 /*  SAVPH$ : AN ARRAY USED TO SAVE WORDS OF POSSIBLE PHRASES;           */ JM
001540 /*  SAVPHL% : AN ARRAY USED TO SAVE THE LENGTH(S) OF WORDS OF           */ JM
001550 /*            POSSIBLE PHRASES;                                         */ JM
001560 /*  SAVSYL% : AN ARRAY USED TO SAVE THE SYLLABLE COUNT(S) OF            */ JM
001570 /*            WORDS OF POSSIBLE PHRASES;                                */ JM
001580 /*  SC% : SENTENCE COUNT;                                               */ JM
001590 /*  SENTPOS$ : END/START OF A SENTENCE; VALUES ARE 'B'=BEGIN,           */ JM
001600 /*             'E'=ENDING;                                              */ JM
001610 /*  SLC% : SYLLABLE COUNT SUBTOTAL FOR THIS PASSAGE;                    */ JM
001620 /*  SP% : SENTENCES PER PARAGRAPH COUNT;                                */ JM
001630 /*  TABLE$ : AN ARRAY TO HOLD ALL CONTROL CHARACTERS WE SHOULD          */ JM
001640 /*           NOT BE CONCERNED WITH;                                     */ JM
001650 /*  TECFIL$ : AN ARRAY TO HOLD THE FILE NAMES FOR THE TECHNICAL         */ JM
001660 /*            WORD LISTS INPUT;                                         */ JM
001670 /*  TECH% : FLAG TO TELL IF WORD IS PRESENT ON TECHNICAL WORD           */ JM
001680 /*          LISTS; IF SO, TECH%=1; ELSE TECH%=0;                        */ JM
001690 /*  TECLIB$ : AN ARRAY TO HOLD THE LIBRARY NAMES FOR THE                */ JM
001700 /*            TECHNICAL WORD LISTS INPUT;                               */ JM
001710 /*  TECVOL$ : AN ARRAY TO HOLD THE VOLUME NAMES FOR THE                 */ JM
```

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001720 /*                TECHNICAL WORD LISTS INPUT;                         */ JM
001730 /*   TITLBUF$ : BUFFER TO HOLD CENTERED TITLE FOR OUTPUT;             */ JM
001740 /*   TLC% : SYLLABLE COUNT FOR EACH WORD;                             */ JM
001750 /*   TPASSV% : FLAG TO KEEP TRACK OF TRUNCATED PASSIVE VOICE;         */ JM
001760 /*            TPASSV%=1 IMPLIES 'TO BE' FOUND,=3 IMPLIES 'TO BE'*/ JM
001770 /*                + 'PAST PARTICIPLE' FOUND;                          */ JM
001780 /*   TRNK_PV$ : TRUNCATED PASSIVE VOICE OPTION; "Y" OR "N";           */ JM
001790 /*   UCW$ : A LARGE ARRAY TO HOLD UNCOMMON WORDS;                     */ JM
001800 /*   UCWCT% : A LARGE NUMERIC ARRAY TO HOLD FREQUENCIES OF EACH  */ JM
001810 /*             ENTRY IN THE UCW$;                                     */ JM
001820 /*   UCWFLG$ : AN ARRAY USED TO TELL IF FORMER POSSIBLE PHRASE        */ JM
001830 /*             WORDS ARE UNCOMMON;                                    */ JM
001840 /*   UNC$ : A BUFFER TO HOLD ALL UNCOMMON WORDS FOR EACH              */ JM
001850 /*         SENTENCE; WHEN END OF SENTENCE FOUND, ADDED TO UCW$; */ JM
001860 /*   UNCPT% : A POINTER TO THE NEXT AVAILABLE LOCATION IN THE         */ JM
001870 /*             UNC$ ARRAY BUFFER FOR UNCOMMON WORDS;                  */ JM
001880 /*   UNCOM$ : UNCOMMON WORD OPTION; IF ='Y', THEN SAVE UNCOMMON       */ JM
001890 /*             WORDS AND LIST AFTER EACH INTERIM ANALYSIS;            */ JM
001900 /*   UPDMSG$ : THE MESSAGE FLASHED TO THE USER AFTER INCREMENTS  */ JM
001910 /*             OF 250 WORDS HAVE BEEN EXAMINED IN UPDATE SCREEN; */ JM
001920 /*   UW% : NUMBER OF UNCOMMON WORDS SO FAR;                           */ JM
001930 /*   WC% : WORD COUNT;                                                */ JM
001940 /*   WORDP$ : THE BUFFER USED TO BUILD POSSIBLE PHRASES;              */ JM
001950 /*   WORDS$(): A SINGLE DIMENSION ARRAY TO HOLD WORDS AND THEIR  */ JM
001960 /*             SUBSTITUTES;                                           */ JM
001970 /*   WORD1$ : THE INPUT WORD IN ALL CAPITALS;                         */ JM
001980 /*   WORD2$ : HOLDS THE INPUT WORD WHILE SYLLY DEALS WITH EACH        */ JM
001990 /*             PART OF A WORD SEPERATED BY A SLASH ("/") OR A         */ JM
002000 /*             HYPHEN ("-");                                          */ JM
002010 /*   WS% : WORDS PER SENTENCE COUNT;                                  */ JM
002020 /*   WSL$ : FLAG TO TELL IF WORD FOUND IN WORD SUBSTITUTION LIST;*/ JM
002030 /*         "N" = NO & "Y" = YES;                                      */ JM
002040 /*   WW1% : USED TO COUNT THE NUMBER OF WORDS PROCESSED FOR USER */ JM
002050 /*         UPDATE OF PROGRESS;                                        */ JM
002060 /*   XLS% : THE GRAND TOTAL OF LONG SENTENCES FOR ALL ANALYSES;  */ JM
002070 /*   XSC% : THE GRAND TOTAL OF SENTENCES FOR ALL ANALYSES;            */ JM
002080 /*   XSLC% : THE GRAND TOTAL OF SYLLABLES FOR ALL ANALYSES;           */ JM
002090 /*   XUC% : THE GRAND TOTAL OF UNCOMMON WORDS FOR ALL ANALYSES;  */ JM
002100 /*   XWC% : THE GRAND TOTAL OF WORDS FOR ANALYSES;                    */ JM
002110 /*                                                                    */ JM
002120 /******************************************************************/ JM
002130      F1$=HEX(A01400AA)          /* FORMAT FOR READING ABBREVIATIONS */ JM
002140      RE$, RGL$, PREP_CNT$, PASSV$, LNG_PAR$ = "Y"                       JM
002150      LNG_SEN$, PERS_SENT$, UNCOM$, NEG$, INT_ANL$ = "Y"                 JM
002160      NUM_SUBZ$, NUM_SUB$, TRNK_PV$, LNG_CLS$ = "Y"                      JM
002170      WSL$,ADVFN$="N"                                                    JM
002180      NP%=5                                                              JM
002190      HOME%=0                                                            JM
002200      ENTER$="ENTER"                                                     JM
002210      PF$="PF16"                                                         JM
002220      PF15$="PF15"                                                       JM
002230      LNGWDS$="200"                                                      JM
002240      LNGSNT$="10"                                                       JM
002250      NP$="05"                                                           JM
002260      TECFIL$(), TECLIB$(), TECVOL$() = ALL(HEX(20))                     JM
002270                                                                         JM
002280      CALL "EXTRACT" ADDR("IV",INVOL$,"SV",PVOL$,"IL",INLIB$,"SL",  ! JM
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002290             PLIB$,"RL",RUNLIB$,"RV",RUNVOL$)                               JM
002300      SELECT #1,"WPDOCMNT",VARC,INDEXED,RECSIZE=256,                       ! JM
002310             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR1                       JM
002320      SELECT #2,"CMNWDLST",VARC,INDEXED,RECSIZE=40,                        ! JM
002330             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR2                       JM
002340      SELECT #3, "WRDSBLST",VARC,INDEXED,RECSIZE=80,                       ! JM
002350             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR3                       JM
002360      SELECT #4, "PHRSBLST",VARC,INDEXED,RECSIZE=70,                       ! JM
002370             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR4                       JM
002380      SELECT #5, "TECHWL1",VARC,INDEXED,RECSIZE=40,                        ! JM
002390             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR5                       JM
002400      SELECT #6, "TECHWL2",VARC,INDEXED,RECSIZE=40,                        ! JM
002410             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR6                       JM
002420      SELECT #7, "TECHWL3",VARC,INDEXED,RECSIZE=40,                        ! JM
002430             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR7                       JM
002440      SELECT #8, "TECHWL4",VARC,INDEXED,RECSIZE=40,                        ! JM
002450             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR10                      JM
002460      SELECT #9, "TECHWL5",VARC,INDEXED,RECSIZE=40,                        ! JM
002470             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR11                      JM
002480      SELECT #10, "TECHWL6",VARC,INDEXED,RECSIZE=40,                       ! JM
002490             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR12                      JM
002500      SELECT #11, "TECHWL7",VARC,INDEXED,RECSIZE=40,                       ! JM
002510             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR13                      JM
002520      SELECT #12, "PRNTFILE",PRINTER,RECSIZE=80, IOERR GOTO IO_ERR8         JM
002530      SELECT #13, "ABBREFIL",VARC,INDEXED,RECSIZE=190,                     ! JM
002540             KEYPOS=01, KEYLEN=20, IOERR GOTO IO_ERR14                      JM
002550      SELECT #14, "TABLE", CONSEC, RECSIZE=256, IOERR GOTO IO_ERR9          JM
002560      CALL "KIKOFF" ADDR(RGL$,PREP_CNT$,PASSV$,LNG_SEN$,LNG_PAR$,          ! JM
002570         LNGWDS$,LNGSNT$,NEG$,UNCOM$,NUM_SUB$,INT_ANL$,NP$,ADVFN$,         ! JM
002580     PERS_SENT$,LNG_CLS$,TRNK_PV$,TECFIL$(),TECLIB$(),TECVOL$(),RE$,! JM
002581     INLIB$,INVOL$)                                                         JM
002590      DOCFIL$=" "                                                           JM
002600      DOCVOL$,COMVOL$,PHRVOL$,WRDVOL$=INVOL$                                JM
002610      COMLIB$,PHRLIB$,WRDLIB$=INLIB$                                        JM
002620 SCRN:                                                                      JM
002630 CALL "SCRENZ"      (COMFIL$,COMLIB$,COMVOL$,WRDFIL$,WRDLIB$,              ! JM
002640      WRDVOL$,PHRFIL$,PHRLIB$,PHRVOL$,DOCFIL$,DOCLIB$,DOCVOL$,             ! JM
002650      PAG_TITL$,LIB$,REG%,INLIB$,INVOL$)                                    JM
002660      IF REG%=0 THEN ENDPRG                                                 JM
002670      FC$()=ALL(HEX(81)) : FC$(8)=HEX(82) : FC$(9)=HEX(80)                  JM
002680      FX$=HEX(8C)     :E$=" "                                               JM
002690                                                                            JM
002700 /*  GET NAME OF FILES TO USE IN PROG. AND PAGE HEADER                    */ JM
002710                                                                            JM
002720 SCREN1: ACCEPT                                                            ! JM
002730          AT (01,03),                                                      ! JM
002740 "CRES: Document Analysis Subsystem          (Technical File Sele! JM
002750 ction Screen)",                                                           ! JM
002760          AT (02,03),                                                      ! JM
002770 "===============================================================! JM
002780 =============",                                                           ! JM
002790          AT (04,10),                                                      ! JM
002800 "Please identify up to 7 Technical Word Lists to be used in",            ! JM
002810          AT (05,10),                                                      ! JM
002820 "the analysis.",                                                          ! JM
002830          AT (07,10),                                                      ! JM
002840          FAC(FX$), E$              ,CH(65),                               ! JM
```

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002850          AT (09,09),                                                      ! JM
002860 "1. FILE :",                                                              ! JM
002870          AT (09,20), FAC(FC$(01)), TECFIL$(1)    , CH(08),                ! JM
002880          AT (09,32),                                                      ! JM
002890 "LIBRARY :",                                                              ! JM
002900          AT (09,43), FAC(FC$(01)), TECLIB$(1)    , CH(08),                ! JM
002910          AT (09,55),                                                      ! JM
002920 "VOLUME :",                                                               ! JM
002930          AT (09,65), FAC(FC$(01)), TECVOL$(1)    , CH(06),                ! JM
002940          AT (10,09),                                                      ! JM
002950 "2. FILE :",                                                              ! JM
002960          AT (10,20), FAC(FC$(02)), TECFIL$(2)    , CH(08),                ! JM
002970          AT (10,32),                                                      ! JM
002980 "LIBRARY :",                                                              ! JM
002990          AT (10,43), FAC(FC$(02)), TECLIB$(2)    , CH(08),                ! JM
003000          AT (10,55),                                                      ! JM
003010 "VOLUME :",                                                               ! JM
003020          AT (10,65), FAC(FC$(02)), TECVOL$(2)    , CH(06),                ! JM
003030          AT (11,09),                                                      ! JM
003040 "3. FILE :",                                                              ! JM
003050          AT (11,20), FAC(FC$(03)), TECFIL$(3)    , CH(08),                ! JM
003060          AT (11,32),                                                      ! JM
003070 "LIBRARY :",                                                              ! JM
003080          AT (11,43), FAC(FC$(03)), TECLIB$(3)    , CH(08),                ! JM
003090          AT (11,55),                                                      ! JM
003100 "VOLUME :",                                                               ! JM
003110          AT (11,65), FAC(FC$(03)), TECVOL$(3)    , CH(06),                ! JM
003120          AT (12,09),                                                      ! JM
003130 "4. FILE :",                                                              ! JM
003140          AT (12,20), FAC(FC$(04)), TECFIL$(4)    , CH(08),                ! JM
003150          AT (12,32),                                                      ! JM
003160 "LIBRARY :",                                                              ! JM
003170          AT (12,43), FAC(FC$(04)), TECLIB$(4)    , CH(08),                ! JM
003180          AT (12,55),                                                      ! JM
003190 "VOLUME :",                                                               ! JM
003200          AT (12,65), FAC(FC$(04)), TECVOL$(4)    , CH(06),                ! JM
003210          AT (13,09),                                                      ! JM
003220 "5. FILE :",                                                              ! JM
003230          AT (13,20), FAC(FC$(05)), TECFIL$(5)    , CH(08),                ! JM
003240          AT (13,32),                                                      ! JM
003250 "LIBRARY :",                                                              ! JM
003260          AT (13,43), FAC(FC$(05)), TECLIB$(5)    , CH(08),                ! JM
003270          AT (13,55),                                                      ! JM
003280 "VOLUME :",                                                               ! JM
003290          AT (13,65), FAC(FC$(05)), TECVOL$(5)    , CH(06),                ! JM
003300          AT (14,09),                                                      ! JM
003310 "6. FILE :",                                                              ! JM
003320          AT (14,20), FAC(FC$(06)), TECFIL$(6)    , CH(08),                ! JM
003330          AT (14,32),                                                      ! JM
003340 "LIBRARY :",                                                              ! JM
003350          AT (14,43), FAC(FC$(06)), TECLIB$(6)    , CH(08),                ! JM
003360          AT (14,55),                                                      ! JM
003370 "VOLUME :",                                                               ! JM
003380          AT (14,65), FAC(FC$(06)), TECVOL$(6)    , CH(06),                ! JM
003390          AT (15,09),                                                      ! JM
003400 "7. FILE :",                                                              ! JM
003410          AT (15,20), FAC(FC$(07)), TECFIL$(7)    , CH(08),                ! JM
```

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003420        AT (15,32),                                             ! JM
003430 "LIBRARY :",                                                   ! JM
003440        AT (15,43), FAC(FC$(07)), TECLIB$(7)    , CH(08),       ! JM
003450        AT (15,55),                                             ! JM
003460 "VOLUME :",                                                    ! JM
003470        AT (15,65), FAC(FC$(07)), TECVOL$(7)    , CH(06),       ! JM
003480        AT (21,28),                                             ! JM
003490 "Press",                                                       ! JM
003500        AT (21,34), FAC(HEX(84)), ENTER$,                       ! JM
003510        AT (21,40),                                             ! JM
003520 "to continue ",                                                ! JM
003530        AT (22,19),                                             ! JM
003540 "Press",                                                       ! JM
003550        AT (22,25), FAC(HEX(84)), PF15$,                        ! JM
003560        AT (22,30),                                             ! JM
003570 "to return to the previous menu",                              ! JM
003580        AT (23,18),                                             ! JM
003590 "Press",                                                       ! JM
003600        AT (23,24), FAC(HEX(84)), PF$,                          ! JM
003610        AT (23,29),                                             ! JM
003620 "to return to the CRES Master Menu",                           ! JM
003630 KEYS(HEX(0010200F1F)), KEY(REC%)                                 JM
003640    E$=" "                                                        JM
003650    IF REC%=16 OR REC%=32 THEN ENDPRG                             JM
003660    IF REC%=15 OR REC%=31 THEN SCRN                               JM
003670    XWC%,XSC%,XSLC%,XUC%,XLS%=0    :LAST$="N"                     JM
003680    FLAG% = 0 : DOCLIB$="        "    :WW1%=0                     JM
003690    MAT LSENT% = ZER         /* INITIALIZE VARIABLES FOR ANALYSIS */ JM
003700    IF NUM_SUB$="0" THEN NUM_SUB$="N"                             JM
003710    IF NUM_SUB$="2" THEN NUM_SUB$="Y"                             JM
003720                                                                  JM
003730 /*  SEE IF FILES EXIST THAT THE USER INPUT                    */ JM
003740                                                                  JM
003750    FC$()=ALL(HEX(81)) : FC$(8)=HEX(82) : FC$(9)=HEX(80)          JM
003760                                                                  JM
003770     FOR I%=1 TO 7                                                JM
003780        FC$(I%)=HEX(81)                                           JM
003790        IF TECFIL$(I%)="        " AND TECLIB$(I%)="        " AND  ! JM
003800           TECVOL$(I%)="      " THEN NI                           JM
003810        CALL "LIMITS"(TECFIL$(I%),TECLIB$(I%),TECVOL$(I%),RC$,MSG$) JM
003820        IF RC$="Y" THEN CALL "READFDR" ADDR(TECFIL$(I%),        ! JM
003830  TECLIB$(I%),TECVOL$(I%),0%,"RS",RAG%,RET%)                      JM
003840        IF RC$<>"Y" OR RAG%<>40 THEN MESS                         JM
003850        J%=I%+4                                                   JM
003860         OPEN NOGETPARM #J%, SHARED, FILE=TECFIL$(I%),          ! JM
003870             LIBRARY=TECLIB$(I%), VOLUME=TECVOL$(I%)              JM
003880        READ #J%, IOBUFF$                                         JM
003890        CLOSE #J%                                                 JM
003900        IF STR(IOBUFF$,1,16)=" TECHNICAL WORDS" THEN NI           JM
003910 MESS:  FC$(I%)=HEX(91)                                           JM
003920  IF RC$<>"Y" THEN E$="             Indicated file does not exist."! JM
003930   ELSE E$="       Indicated file is NOT a Technical Word List."  JM
003940        FX$=HEX(84)                                               JM
003950        I%=7                                                      JM
003960        FLAG% = 1                                                 JM
003970 NI: NEXT I%                                                      JM
003980                                                                  JM
```

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003990     IF FLAG%=1 THEN SCREN1                                            JM
004000       FOR I%=1 TO 6  /* MAKE SURE USER DIDN'T SPECIFY DUPLICATES */   JM
004010         FOR JI%=I%+1 TO 7                                             JM
004020               IF TECFIL$(I%)=" " THEN JI%=8                           JM
004030               IF TECFIL$(I%)=" " THEN NIN                             JM
004040               IF TECFIL$(I%)<>TECFIL$(JI%) THEN NIN                   JM
004050               IF TECLIB$(I%)<>TECLIB$(JI%) THEN NIN                   JM
004060               IF TECVOL$(I%)<>TECVOL$(JI%) THEN NIN /* DIFF. VOLS */  JM
004070               FC$(I%)=HEX(91)         /* SET THE FAC'S   */           JM
004080               FC$(JI%)=HEX(91)                                        JM
004090               E$="           Duplicate Lists were specified."         JM
004100               FX$=HEX(84)                                             JM
004110               I%=7                  /* GET OUT OF THE LOOP */         JM
004120               JI%=8                                                   JM
004130               FLAG%=1                 /* SET THE FLAG */              JM
004140 NIN:          NEXT JI%                                                JM
004150       NEXT I%                                                         JM
004160     IF FLAG%=1 THEN SCREN1                                            JM
004170     IF PAG_TITL$ ="   " THEN OPT_SCRN                                 JM
004180     IDENT%= ((LEN(PAG_TITL$))/2)                                      JM
004190     TITLBUF$=ALL(HEX(20))                                             JM
004200     STR(TITLBUF$,34-IDENT%) = PAG_TITL$                               JM
004210                                                                       JM
004220                 /*  GET OPTIONS FROM THE USER. */                     JM
004230                                                                       JM
004240 OPT_SCRN:                                                             JM
004250       IF NUM_SUB$="2" THEN NUM_SUB$="Y"                               JM
004260       IF NUM_SUB$="0" THEN NUM_SUB$="N"                               JM
004270 ACCEPT                                                              ! JM
004280          AT (01,03),                                                ! JM
004290 "CRES: Document Analysis Subsystem                      (Option Sele! JM
004300 ction Screen)",                                                     ! JM
004310          AT (02,03),                                                ! JM
004320 "===========================================================! JM
004330 ============",                                                      ! JM
004340          AT (04,10),                                                ! JM
004350 "Default options are listed below.  They may be changed as",       ! JM
004360          AT (05,10),                                                ! JM
004370 "appropriate for the current document analysis.",                  ! JM
004380          AT (07,19),                                                ! JM
004390 "1.) Report Reading Grade Level....(Y/N)",                         ! JM
004400          AT (07,59), RGL$           , CH(01),                       ! JM
004410          AT (08,19),                                                ! JM
004420 "2.) Count Prepositions............(Y/N)",                         ! JM
004430          AT (08,59), PREP_CNT$      , CH(01),                       ! JM
004440          AT (09,19),                                                ! JM
004450 "3.) Flag Passive Voice............(Y/N)",                         ! JM
004460          AT (09,59), PASSV$         , CH(01),                       ! JM
004470          AT (10,19),                                                ! JM
004480 "4.) Flag Long Sentences...........(Y/N)",                         ! JM
004490          AT (10,59), LNG_SEN$       , CH(01),                       ! JM
004500          AT (11,19),                                                ! JM
004510 "5.) Flag Long Paragraphs..........(Y/N)",                         ! JM
004520          AT (11,59), LNG_PAR$       , CH(01),                       ! JM
004530          AT (12,23),                                                ! JM
004540              "If YES, How Long?",                                   ! JM
004550          AT (12,42),"Words...........",                             ! JM
```

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004560    AT (12,59), FAC(HEX(82)), LNGWDS$, CH(03), RANGE("001","999"),! JM
004570        AT (13,42), "Sentences.......",                           ! JM
004580        AT (13,59),FAC(HEX(82)),LNGSNT$, CH(02), RANGE("01","99"),! JM
004590        AT (14,19),                                               ! JM
004600 "6.) Flag Double Negatives.........(Y/N)",                       ! JM
004610        AT (14,59), NEG$          , CH(01),                       ! JM
004620        AT (15,19),                                               ! JM
004630 "7.) Flag & List Uncommon Words....(Y/N)",                       ! JM
004640        AT (15,59), UNCOM$        , CH(01),                       ! JM
004650        AT (16,19),                                               ! JM
004660 "8.) Include Substitutes...........(Y/N)",                       ! JM
004670        AT (16,59), NUM_SUB$      , CH(01),                       ! JM
004680        AT (17,19),                                               ! JM
004690 "9.) Interim Analyses..............(Y/N)",                       ! JM
004700        AT (17,59), INT_ANL$      , CH(01),                       ! JM
004710        AT (18,18),                                               ! JM
004720 "10.) Number of Pages Between Reports....",                      ! JM
004730        AT (18,59), FAC(HEX(82)), NP$, CH(02), RANGE("01","99"),  ! JM
004740        AT (19,18),                                               ! JM
004750 "11.) Check Personal Sentences......(Y/N)",                      ! JM
004760        AT (19,59), PERS_SENT$    , CH(01),                       ! JM
004770        AT (20,18),                                               ! JM
004780 "12.) Check Truncated Passive Voice.(Y/N)",                      ! JM
004790        AT (20,59), TRNK_PV$      , CH(01),                       ! JM
004800        AT (22,27),                                               ! JM
004810 "Press",                                                         ! JM
004820        AT (22,33), FAC(HEX(84)), ENTER$,                         ! JM
004830        AT (22,39),                                               ! JM
004840 "to continue ",                                                  ! JM
004850        AT (23,20),                                               ! JM
004860 "Press",                                                         ! JM
004870        AT (23,26), FAC(HEX(84)), PF15$,                          ! JM
004880        AT (23,31),                                               ! JM
004890 "to return to previous menu  ",                                  ! JM
004900        AT (24,18),                                               ! JM
004910 "Press",                                                         ! JM
004920        AT (24,24), FAC(HEX(84)), PF$,                            ! JM
004930        AT (24,29),                                               ! JM
004940 "to return to CRES Master Menu",                                 ! JM
004950  KEYS(HEX(0010200F1F)), KEY(REC%)                                  JM
004960    IF REC%=16 OR REC%=32 THEN ENDPRG                               JM
004970    IF REC%=15 OR REC%=31 THEN SCREN1                               JM
004980    IF LNG_PAR$="Y" THEN CONVERT LNGWDS$ TO LNGWDS%                 JM
004990    IF LNG_PAR$="Y" THEN CONVERT LNGSNT$ TO LNGSNT%                 JM
005000    NUM_SUBZ$=NUM_SUB$                                              JM
005010    IF NUM_SUB$="Y" THEN NUM_SUB$="2" ELSE NUM_SUB$="0"             JM
005020    CONVERT NP$ TO NP%                  /* ANALYSIS USES NUMERIC */ JM
005030    BP%=NP%         :GP%=NP%               /* SET UP BREAK POINT */ JM
005040                                                                    JM
005050                                                                    JM
005060     /* FIRST, LET'S STORE DEFAULTS IF NECESSARY */                 JM
005070                                                                    JM
005080        IF RE$<>"L" THEN OPEN_DOC1                                  JM
005090    CALL "KIKOFF" ADDR(RGL$,PREP_CNT$,PASSV$,LNG_SEN$,LNG_PAR$,   ! JM
005100       LNGWDS$,LNGSNT$,NEG$,UNCOM$,NUM_SUB$,INT_ANL$,NP$,ADVFN$,  ! JM
005110   PERS_SENT$,LNG_CLS$,TRNK_PV$,TECFIL$(),TECLIB$(),TECVOL$(),RE$,! JM
005111     INLIB$,INVOL$)                                                 JM
```

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005120                                                                      JM
005130 /* open the document to be analyzed on #1 for input */               JM
005140                                                                      JM
005150 OPEN_DOC1: IF OPEN%(1) = 1 THEN CALL "WPCLOSE" ADDR(RET%,#1)         JM
005160    SELECT WS                                                         JM
005170    ID$=STR(DOCFIL$,1,4) & LIB$                                       JM
005180    CALL "WPOPEN" ADDR (RET%,#1,ID$,"I",0%,DOCFIL$,DOCLIB$,DOCVOL$)   JM
005190                                                                      JM
005200    IF RET%=0 THEN MORE                                               JM
005210       PRINT AT (22,1);"Error on WPOPEN #1 "                          JM
005220    GOTO IO_ERR1                                                      JM
005230                                                                      JM
005240 MORE: OPEN%(1) = 1                                                   JM
005250       CALL "WPSTART" ADDR (RET%,#1,1%,2%)                            JM
005260       IF RET% = 0 THEN AOK1                                          JM
005270       PRINT AT (22,1);"Error on WPSTART - First #1"                  JM
005280    GOTO IO_ERR1                                                      JM
005290                                                                      JM
005300 /* TEMPORARY ASSIGNMENT FOR INLIB$ */                                JM
005310                                                                      JM
005320 AOK1:                                                                JM
005330       IF OPEN%(2) = 1 THEN CLOSE #2                                  JM
005340     OPEN NOGETPARM #2, SHARED, FILE=COMFIL$,                       ! JM
005350          LIBRARY=COMLIB$, VOLUME=COMVOL$                             JM
005360     OPEN%(2) = 1                                                     JM
005370                                                                      JM
005380     IF OPEN%(3) = 1 THEN CLOSE #3                                    JM
005390     OPEN NOGETPARM #3, SHARED, FILE=WRDFIL$,                       ! JM
005400          LIBRARY=WRDLIB$, VOLUME=WRDVOL$                             JM
005410     OPEN%(3) = 1                                                     JM
005420                                                                      JM
005430     IF OPEN%(4) = 1 THEN CLOSE #4                                    JM
005440     OPEN NOGETPARM #4, SHARED, FILE= PHRFIL$,                      ! JM
005450          LIBRARY=PHRLIB$, VOLUME=PHRVOL$                             JM
005460     OPEN%(4) = 1                                                     JM
005470                                                                      JM
005480       FOR I% = 1 TO 7                                                JM
005490         IF TECFIL$(I%)="        " THEN NTI                           JM
005500         J%=I%+4                                                      JM
005510         IF OPEN%(J%) = 1 THEN CLOSE #J%                              JM
005520         OPEN NOGETPARM #J%, SHARED, FILE=TECFIL$(I%),              ! JM
005530            LIBRARY=TECLIB$(I%), VOLUME=TECVOL$(I%)                   JM
005540         OPEN%(J%) = 1                                                JM
005550 NTI: NEXT I%                                                         JM
005560                                                                      JM
005570     PRINTFL$="ANALYS##"   : I%=0                                     JM
005580 C:  CONVERT I% TO STR(PRINTFL$,7,2), PIC(00)                         JM
005590     CALL "LIMITS" (PRINTFL$,PLIB$,PVOL$,RC$,MSG$)                    JM
005600     I%=I%+1                                                          JM
005610     IF RC$ = "Y" THEN C                                              JM
005620                                                                      JM
005630     IF OPEN%(12) = 1 THEN CLOSE #12                                  JM
005640     OPEN NOGETPARM #12, OUTPUT, FILE=PRINTFL$,                     ! JM
005650          LIBRARY=PLIB$, VOLUME=PVOL$                                 JM
005660     OPEN%(12) = 1                                                    JM
005670                                                                      JM
005680    ABBRE%=0                                                          JM
```

```
005690    CALL "LIMITS"("ABBRELST",INLIB$,INVOL$,RC$,MSG$)                JM
005700    IF RC$ <> "Y" THEN SK                                            JM
005730                                                                     JM
005740     OPEN NOGETPARM #13, SHARED, FILE="ABBRELST",                  ! JM
005750          LIBRARY= INLIB$ , VOLUME = INVOL$                          JM
005770    READ #13, IOBUF$          /* GETS RID OF ABBREVIATION HEADER */ JM
005780    I%=1                                                             JM
005790 REED: READ #13, IOBUF$, EOD GOTO CONT                               JM
005800    $UNPACK (F=FL$) IOBUF$ TO ABBRE$(I%)                             JM
005810    I%=I%+1                                                          JM
005820    GOTO REED                                                        JM
005830                                                                     JM
005840 CONT: CLOSE #13                                                     JM
005850       ABBRE%=I%-1              /* SET ABBREVIATION ARRAY LENGTH */ JM
005860 SK:OPEN NOGETPARM #14, INPUT, FILE="ELIMSPCH", LIBRARY=INLIB$,    ! JM
005870         VOLUME=INVOL$                                               JM
005880                                                                     JM
005890    READ #14, STR(TABLES$(),,256), EOD GOTO IO_ERR9                  JM
005900                                                                     JM
005910    CLOSE #14                                                        JM
005920                                                                     JM
005930    GOSUB ANALYZE                           /* ANALYZE TEXT FILES */ JM
005940                                                                     JM
005950    GOSUB CLSFL                                /* CLOSE ALL FILES */ JM
005960                                                                     JM
005970    GOSUB ANLDISP             /* DISPLAY OR PRINT OUTPUT SCREEN */ JM
005980    IF HOME%=1 THEN ENDPRG                /* END THE PROGRAM NOW */ JM
005990  GOTO SCRN                                                          JM
006000                                                                     JM
006010 /****************************************************************/ JM
006020 /*                                                              */ JM
006030 /*  THIS SUBROUTINE GENERATES A SCREEN FOR THE USER TO DECIDE   */ JM
006040 /*  HOW HE/SHE WOULD LIKE TO SEE THE GENERATED OUTPUT.          */ JM
006050 /*                                                              */ JM
006060 /****************************************************************/ JM
006070 ANLDISP:                                                            JM
006080 ER$=" "                                                             JM
006090 PF1$="PF1"                                                          JM
006100 CWMENU:                                                             JM
006110 ACCEPT                                                            ! JM
006120        AT (01,03),                                                ! JM
006130 "CRES: Document Analysis Subsystem                 (Display of Ana! JM
006140 lysis Screen)",                                                   ! JM
006150        AT (02,03),                                                ! JM
006160 "=================================================================! JM
006170 =============",                                                   ! JM
006180        AT (05,14),                                                ! JM
006190 "CRES Analysis as specified has been completed.   Your",         ! JM
006200        AT (06,14),                                                ! JM
006210 "output file is in the Print Queue and named as follows:",        ! JM
006220        AT (10,12),                                                ! JM
006230 "FILE:",                                                          ! JM
006240        AT (10,18), FAC(HEX(84)), PRINTFL$, CH(08),                ! JM
006250        AT (10,33),                                                ! JM
006260 "LIBRARY:",                                                       ! JM
006270        AT (10,42), FAC(HEX(84)), PLIB$, CH(08),                   ! JM
006280        AT (10,57),                                                ! JM
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006290 "VOLUME:",                                                      : JM
006300        AT (10,65), FAC(HEX(84)), PVOL$, CH(06),                 : JM
006310        AT (13,02), FAC(HEX(94)), ER$,                           : JM
006320        AT (16,21),                                              : JM
006330 "Press",                                                        : JM
006340        AT (16,27), FAC(HEX(84)), PF1$, CH(03),                  : JM
006350        AT (16,31),                                              : JM
006360 "to display file at terminal",                                  : JM
006370        AT (17,21),                                              : JM
006380 "Press",                                                        : JM
006390        AT (17,27), FAC(HEX(84)), PF15$, CH(04),                 : JM
006400        AT (17,32),                                              : JM
006410 "to analyze another text",                                      : JM
006420        AT (18,21),                                              : JM
006430 "Press",                                                        : JM
006440        AT (18,27), FAC(HEX(84)), PF$, CH(04),                   : JM
006450        AT (18,32),                                              : JM
006460 "to return to CRES Master Menu",                                : JM
006470 KEYS(HEX(01110F1F1020)),KEY(REC%)                                 JM
006480 IF REC%=15 OR REC%=31 THEN RETURN                                 JM
006490 IF REC%=16,OR REC%=32 THEN HOME%=1                                JM
006500 IF HOME%=1 THEN RETURN                                            JM
006510                                                                   JM
006520         CLOSE WS                                                  JM
006530         MSG2$ = "CANCEL Processing"                               JM
006540         MSK$=HEX(00)                                              JM
006550         CMSG$ = " "                                               JM
006560         CALL "LINK" ADDR("ANALDISP","P",RUNLIB$,RUNVOL$,3%,     : JM
006570         PRINTFL$,PLIB$,PVOL$,"C",MSG2$,27%,"H",MSK$,CMSG$,      : JM
006580         255%,C%,R%)                                               JM
006590         ER$ = " "                                                 JM
006600         IF C%=0 AND R%=0 THEN RETURN                              JM
006610         IF C%<>0 OR R%<>0                                       : JM
006620         THEN ER$ = STR(CMSG$,141)                                 JM
006630         GOTO CMMENU                                               JM
006640 /***************************************************************/ JM
006650 /*                                                             */ JM
006660 /* THIS SUBROUTINE CLOSES ANY FILES THAT ARE STILL OPEN.       */ JM
006670 /*                                                             */ JM
006680 /***************************************************************/ JM
006690 CLSFL:                                                            JM
006700        FOR I%=2 TO 13                                             JM
006710           IF OPEN%(I%) = 1  THEN CLOSE #I%                        JM
006720        NEXT I%                                                    JM
006730        IF OPEN%(1) = 1 THEN CALL "WPCLOSE" ADDR(RET%,#1)          JM
006740        MAT OPEN%=ZER                                              JM
006750      RETURN                                                       JM
006760                                                                   JM
006770 ENDPRG: GOSUB CLSFL : END                 /* END THE PROGRAM NOW */ JM
006780                                                                   JM
006790 IO_ERR1: PRINT AT(23,1), "I/O ERROR ON DOCUMENT FILE, #1.  FILE";! JM
006800             " STATUS IS : ";RET%; "AND "; FS(#1)                  JM
006810              STOP "PRESS ENTER TO CONTINUE"                       JM
006820           GOSUB CLSFL : GOTO SCRN                                 JM
006830                                                                   JM
006840 IO_ERR2: PRINT AT(23,1), "I/O ERROR ON COMMON WORD LIST FILE, #2"! JM
006850              ;".  FILE STATUS IS : ";FS(#2)                       JM
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006860                STOP "PRESS ENTER TO CONTINUE"                           JM
006870            GOSUB CLSFL : GOTO SCRN                                      JM
006880                                                                         JM
006890 IO_ERR3: PRINT AT(23,1), "I/O ERROR ON WORD SUBST. LIST FILE, #3"!  JM
006900                ;". FILE STATUS IS : "; FS(#3)                          JM
006910                STOP "PRESS ENTER TO CONTINUE"                           JM
006920            GOSUB CLSFL : GOTO SCRN                                      JM
006930                                                                         JM
006940 IO_ERR4: PRINT AT(23,1), "I/O ERROR ON PHRASE SUBST. LIST FILE"; !  JM
006950                " #4.  FILE STATUS IS : ";FS(#4)                        JM
006960                STOP "PRESS ENTER TO CONTINUE"                           JM
006970            GOSUB CLSFL : GOTO SCRN                                      JM
006980                                                                         JM
006990 IO_ERR5: PRINT AT(23,1), "I/O ERROR ON TECH. WORD LIST FILE, #5";!  JM
007000                ".  FILE STATUS IS : ";FS(#5)                           JM
007010                STOP "PRESS ENTER TO CONTINUE"                           JM
007020            GOSUB CLSFL : GOTO SCRN                                      JM
007030                                                                         JM
007040 IO_ERR6: PRINT AT(23,1), "I/O ERROR ON TECH. WORD LIST FILE, #6";!  JM
007050                ".  FILE STATUS IS : ";FS(#6)                           JM
007060                STOP "PRESS ENTER TO CONTINUE"                           JM
007070            GOSUB CLSFL : GOTO SCRN                                      JM
007080                                                                         JM
007090 IO_ERR7: PRINT AT(23,1), "I/O ERROR ON TECH. WORD LIST FILE, #7";!  JM
007100                ".  FILE STATUS IS : ";FS(#7)                           JM
007110                STOP "PRESS ENTER TO CONTINUE"                           JM
007120            GOSUB CLSFL : GOTO SCRN                                      JM
007130                                                                         JM
007140 IO_ERR8: PRINT AT(23,1), "I/O ERROR ON PRINT FILE, #12. FILE ST";!  JM
007150                "ATUS IS : ";FS(#12)                                     JM
007160                STOP "PRESS ENTER TO CONTINUE"                           JM
007170            GOSUB CLSFL : GOTO SCRN                                      JM
007180                                                                         JM
007190 IO_ERR9: PRINT AT(23,1), "I/O ERROR ON TABLE FILE, #14. FILE ST";!  JM
007200                "ATUS IS : ";FS(#14)                                     JM
007210                STOP "PRESS ENTER TO CONTINUE"                           JM
007220            GOSUB CLSFL : GOTO SCRN                                      JM
007230                                                                         JM
007240 IO_ERR10:PRINT AT(23,1), "I/O ERROR ON TECH. WORD LIST FILE, #8";!  JM
007250                ".  FILE STATUS IS : ";FS(#8)                           JM
007260                STOP "PRESS ENTER TO CONTINUE"                           JM
007270            GOSUB CLSFL : GOTO SCRN                                      JM
007280                                                                         JM
007290 IO_ERR11:PRINT AT(23,1), "I/O ERROR ON TECH. WORD LIST FILE, #9";!  JM
007300                ".  FILE STATUS IS : ";FS(#9)                           JM
007310                STOP "PRESS ENTER TO CONTINUE"                           JM
007320            GOSUB CLSFL : GOTO SCRN                                      JM
007330                                                                         JM
007340 IO_ERR12:PRINT AT(23,1),"I/O ERROR ON TECH. WORD LIST FILE, #10";!  JM
007350                ".  FILE STATUS IS : ";FS(#10)                          JM
007360                STOP "PRESS ENTER TO CONTINUE"                           JM
007370            GOSUB CLSFL : GOTO SCRN                                      JM
007380                                                                         JM
007390 IO_ERR13:PRINT AT(23,1),"I/O ERROR ON TECH. WORD LIST FILE, #11";!  JM
007400                ".  FILE STATUS IS : ";FS(#11)                          JM
007410                STOP "PRESS ENTER TO CONTINUE"                           JM
007420            GOSUB CLSFL : GOTO SCRN                                      JM
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007430                                                                       JM
007440 IO_ERR14:PRINT AT(23,1),   "I/O ERROR ON ABBREVIATION FILE, #13";! JM
007450              ".  FILE STATUS IS : ";FS(#13)                           JM
007460              STOP "PRESS ENTER TO CONTINUE"                           JM
007470          GOSUB CLSFL : GOTO SCRN                                      JM
007480                                                                       JM
007490 /****************************************************************/ JM
007500 /*                                                              */ JM
007510 /* THIS  SUBROUTINE  ANALYZES  A  DOCUMENT  FILE  AND  OUTPUTS  */ JM
007520 /* THE RESULT IN A PRINT FILE.  SEVERAL OPTIONAL WORD LISTS MAY */ JM
007530 /* BE USED IN THE ANALYSIS.                                     */ JM
007540 /*                                                              */ JM
007550 /****************************************************************/ JM
007560                                                                       JM
007570 ANALYZE:                                                              JM
007580                                                                       JM
007590 /* DECLARE MORE VARIABLES                                         */ JM
007600                                                                       JM
007610    DIM ILINE$(1)80, WORDO$20, RECORD$40,PREC$70,REC1$80,BLANK$1     JM
007620    DIM OLINE$77, WORDS$80, WORD1$24, BB$1, BC$1, BS$1, A$1          JM
007630    DIM INVLD$1, CW$1, FOUND$1, CLSPOS$1, T1$1, T2$1,T3$1,E_O_F$1   JM
007640    DIM SENTPOS$1, NEG%(3), PERSENT$1, END_O_PAR$1, WORDS$(2)160     JM
007650    DIM Z1$1,Z$2,Z2$3,UPDMSG$51,WORD2$24,BEGINY$3,ENDY$3,BUFFER$33  JM
007660    DIM SAVSUB$(5)40,SAVSUBL%(5),SAVREC1$(5)80,WORDZ$80              JM
007670    BLANK$="N"                                                         JM
007680    MAT SAVSUBL% = ZER                                                 JM
007690    WW1%=0  :WW%=0       /* INITIALIZE UPDATE VARIABLES  */           JM
007700    GOSUB UPDATE                                                       JM
007710    CALL "TTLPGE" ADDR(BUFFA$(),PAG_TITL$,DOCFIL$,LIB$,DOCVOL$,    ! JM
007720       RGL$,PREP_CNT$,PASSV$,LNG_SEN$,LNG_PAR$,LNGWDS$,LNGSNT$,    ! JM
007730       NEG$,UNCOM$,NUM_SUBZ$,INT_ANL$,NP$,ADVFN$,PERS_SENT$,       ! JM
007740       LNG_CLS$,TRNK_PV$,TECFIL$(),TECLIB$(),TECVOL$(),IE%)       . JM
007750                                                                       JM
007760    GOSUB TTL_PGE                                                      JM
007770                                                                       JM
007780    GOSUB SETUP                  '           /* INITIALIZE PROG. */ JM
007790                                                                       JM
007800 CLGW:                                                                 JM
007810                                                                       JM
007820 /* GET NEXT WORD */                                                   JM
007830    GOSUB GETWORD                                                      JM
007840    ON (I%+1) GOTO IO_ERR1, WDFND, BLDOPL, BLDOPL, WFO                JM
007870                                                                       JM
007880 WDFND:                                            /* ANALYZE WORD */ JM
007890    GOSUB CHKWORD                                                      JM
007900    IF I%=0 THEN WFO                                                   JM
007910                                                                       JM
007920       /* CASES OF NO ANALYSIS */                                      JM
007930                                                                       JM
007940    IF NUM_SUB$="2" AND CW$<>"N" THEN CHKPHR                           JM
007950    IF CW$ = "N" OR UNCOM$ <> "Y" THEN BLDOPL                          JM
007960    IF NUM_SUB$<>"2" THEN BLDOPL                                       JM
007970                                                                       JM
007980 /* CHECK PHRASE FILE */                                               JM
007990 CHKPHR:     GOSUB CHKPHSFL                                            JM
008000    IF I%=0 THEN WFO                                                   JM
008010    IF CW$<>"P" THEN BLDOPL              /* NO PARTIAL PHRASE FOUND */ JM
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008020                                                                    JM
008030    /* MUST HAVE FOUND PARTIAL PHRASE - SAVE IT AND TRY AGAIN */    JM
008040                                                                    JM
008050    SAVPH$(PHCT%)=STR(WORDS$,1,WLEN%)             /* SAVE THE WORD*/ JM
008060    SAVPHL%(PHCT%)=WLEN%               /* SAVE THE WORD'S LENGTH */ JM
008070    SAVSYL%(PHCT%)=TLC%               /* SAVE THE SYLLABLE COUNT */ JM
008080    IF WSL$<>"Y" THEN PHCT%=PHCT%+1           /* INCREMENT PHCT% */ JM
008090    IF WSL$<>"Y" THEN CLGW              /* NO NEED TO SAVE SUBS. */ JM
008100    SAVREC1$(PHCT%)=REC1$                     /* SAVE THE RECORD */ JM
008110                                                                    JM
008120 /* SINCE THIS WORD SUBSTITUTE COULD BE TAKEN CARE OF IN SEVERAL */ JM
008130 /* PLACES IN THIS PROGRAM, WE NEEDED TO SAVE IT TWO WAYS - AS A */ JM
008140 /* RECORD (SAVREC1$) AND AS COMPONENTS (SAVSUB$ & SAVSUBL%)    */ JM
008150                                                                    JM
008160    K1%=-1                                                          JM
008170    K1%=POS(STR(REC1$,21,20)=" ")                                   JM
008180 SUBZ: IF STR(REC1$,K1%+21,1)=" " OR K1%=20 THEN CNT1              JM
008190    K4%=POS(STR(REC1$,K1%+21,20-K1%)=" ")        /* GET THE REST */ JM
008200    IF K4%=0 THEN K1%=20          /*THE SUBSTITUTE TOOK 20 SPACES*/ JM
008210    K1%=K1%+K4%                                                     JM
008220    GOTO SUBZ                                                       JM
008230 CNT1: K1%=MIN(20,K1%)                                              JM
008240    J%=K1%+5                                /* INCLUDES "<* "...."*>" */ JM
008250                                                                    JM
008260      /* ANOTHER SUBSTITUTE ? */                                    JM
008270                                                                    JM
008280    IF STR(REC1$,41,1)=" " THEN J%=J%+2                             JM
008290    IF STR(REC1$,41,1)=" " THEN CNT2                                JM
008300    K2%=0                                                           JM
008310    K2%=POS(STR(REC1$,41,15)=" ")                                   JM
008320 SUB1: IF STR(REC1$,K2%+41,1)=" " OR K2%=15  THEN CNT2             JM
008330    K4%=POS(STR(REC1$,K2%+41,15-K2%)=" ")      /* GET THE REST */   JM
008340    IF K4%=0 THEN K2%=15      /* THE SUBSTITUTE TOOK 15 SPACES */   JM
008350    K2%=K2%+K4%                                                     JM
008360    GOTO SUB1                                                       JM
008370 CNT2: K2%=MIN(15,K2%)                                              JM
008380    IF K2%>0 THEN K2% = K2% + 3     /* INCLUDES "/" & TWO SPACES */ JM
008390    SAVSUBL%(PHCT%)=J%+K2%                                          JM
008400    SAVSUB$(PHCT%)="<* " & STR(REC1$,21,K1%)                        JM
008410    IF K2%<>0 THEN SAVSUB$(PHCT%)= SAVSUB$(PHCT%) & "/" &         ! JM
008420   STR(REC1$,41,K2%) & "*>"                                       ! JM
008430    ELSE SAVSUB$(PHCT%)=SAVSUB$(PHCT%) & "*>"                       JM
008440    WSL$="N"                                   /* RESET THE FLAG */ JM
008450    PHCT% = PHCT% + 1       /* INCREMENT THE COUNT OF WORDS HELD */ JM
008460    GOTO CLGW                                 /* GET THE NEXT WORD */ JM
008470                                                                    JM
008480                 /* BUILD OUTPUT LINE */                            JM
008481                                                                    JM
008490 BLDOPL:                                                            JM
008500    I%=1                                                            JM
008510    GOSUB SELOPT                                                    JM
008520    IF I% <> 0 THEN CLGW                                            JM
008530                                                                    JM
008540                /* WRITE FINAL OUTPUT */                            JM
008541                                                                    JM
008550 WFO:                                                               JM
008560    E_O_F$="Y"                                                      JM
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008561    IF UNCOM$="Y" AND UNCPT% 1 THEN GOSUB ADD_UNCWL                     JM
008570    CW$="N"                                       /* NO PHRASE */ JM
008580    END_O_PAR$="Y"                         /* END OF PARAGRAPH */ JM
008590    I%=1                                                                JM
008600    GOSUB SELOPT                                                        JM
008610    IF I%=0 THEN ENDSUB                                                 JM
008620                                                                        JM
008630         /* COMPLETE PRINTING THE LAST LINE IF NECESSARY */            JM
008640                                                                        JM
008650    IF IO% <= 1 THEN INTY         /* PRINT THE REMAINDER OF LINE */ JM
008660                                                                        JM
008670    GOSUB PRTLNE                                                        JM
008680    IF I%=0 THEN ENDSUB                                                 JM
008690                                                                        JM
008700                /* CHECK ON NEED FOR RGL */                             JM
008710        /* NO WORDS READ OR DON'T WANT INTERIM RGL */                   JM
008720                                                                        JM
008730 INTY: IF WC%=0 OR INT_ANL$<>"Y" THEN CHKRGL                            JM
008740    IF PC%-1 <= BP% THEN CIRCLE    /* NO INTERIM ANALYSIS NEEDED */ JM
008750    GOSUB PRTRGL                                                        JM
008760    IF IQ%=0 THEN ENDSUB                                                JM
008770                                                                        JM
008780    IF IDX%=0 OR UNCOM$<>"Y" THEN CHKRGL    /* NO UNCOMMON WORDS*/    JM
008790                                                                        JM
008800    GOSUB UWL                                                           JM
008810    IF IU%=0 THEN ENDSUB                                                JM
008820                                                                        JM
008830 /* DO WE PRINT SUMMARY RGL */                                          JM
008840                                                                        JM
008850 CHKRGL:                                                                JM
008860    IF E_O_F$="Y" THEN E_O_F$="E"                                       JM
008870    IF E_O_F$<> "E" THEN RETURN                                         JM
008880    IF UNCOM$="Y" AND IDX%<>0 THEN GOSUB UWL                            JM
008890    IF RGL$<>"Y" THEN RETURN                                            JM
008900    LAST$="Y"              /*USED TO SET PROPER HEADING ON PRINTOUT */ JM
008910    IF INT_ANL$<>"Y" THEN CIRCLE'  /* NOT BEEN KEEPING SUBTOTALS */ JM
008920    LS%=XLS%                                                            JM
008930    SC%=XSC%                                                            JM
008940    SLC%=XSLC%                                                          JM
008950    UW%=XUC%                                                            JM
008960    WC%=XWC%                                                            JM
008970 CIRCLE: IF RGL$<>"Y" THEN CI                                           JM
008980         LAST$="Y"                                                      JM
008990         GOSUB PRTRGL                                                   JM
009000 CI: IF PC%-1 <= BP% AND UNCOM$="Y" AND IDX%<>0 THEN GOSUB UWL          JM
009010  GOTO ENDSUB                                                           JM
009020                                                                        JM
009030 /********************************************************************/ JM
009040 /*                                                                  */ JM
009050 /*  THIS SUBROUTINE INITIALIZES VARIABLES FOR THE ANALYSIS.         */ JM
009060 /*                                                                  */ JM
009070 /********************************************************************/ JM
009080                                                                        JM
009090 SETUP:                                                                 JM
009100    UNC$(), WORDS$(), ILINE$(), OLINE$, SAVPH$() = ALL(HEX(20))         JM
009110    PERSENT$, END_O_PAR$, INVLD$,CW$,T1$,T2$,POUND$,CLSPOS$,T3$=" " JM
009120    SENTPOS$="B"   :E_O_F$="N"                                          JM
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009130    MAT NEG%=ZER      :MAT SAVPHL%=ZER    :MAT UCWCT%=ZER           JM
009140    MAT LCLSFL%=ZER               /* SET LONG CLAUSE FLAG TO BLANK */ JM
009150    UCWFLG$()=" "                    /* SET ALL UCW FLAGS TO BLANK */ JM
009160    UCW$()=" "                       /* SET ALL UCW ARRAY TO BLANK */ JM
009170    IDX%=0                /* SET THE INDEX TO THE UCW ARRAY TO 0 */ JM
009180    CONSIS%, LIST%, EOS%, PASSV%, TPASSV%=0                         JM
009190    WC%, SC%, SLC%, UW%, LS%, WS%, PS%, TLC%, NC%, PE%, WP%, SP% =0 JM
009200    WC1%,WP1% =0                                                    JM
009210    SLC1% =0                                                        JM
009220    UNCPT%,PHCT%,IO%,PC%=1                   /* PC IS PAGE COUNT */ JM
009230    BEGINY$="  1"                       /* USED FOR PRINTING RGL */ JM
009240    LC%=0                                           /* LINE COUNT */ JM
009250    LP%=50                                       /* LINES / PAGE */ JM
009260    LL%=77                                      /* CHARS. / LINE */ JM
009270    IL%=257               /* SET SO THAT FIRST LINE WILL BE READ */ JM
009280    WW%,I%=1                                                        JM
009310                                                                    JM
009320  RETURN                              /* SETUP SUBROUTINE RETURN */ JM
009330                                                                    JM
009340 /****************************************************************/ JM
009350 /*                                                              */ JM
009360 /*  THIS SUBROUTINE GETS THE NEXT WORD TO BE ANALYZED.          */ JM
009370 /*                                                              */ JM
009380 /****************************************************************/ JM
009390                                                                    JM
009400 GETWORD:                                                           JM
009410    I%=0                                                            JM
009420    IL%=MAX(1,IL%)                                                  JM
009430    IF IL% > 80 THEN GETLNE                                         JM
009440                                                                    JM
009450 GETSTPOS:                             /* GET THE START POSITION */ JM
009460    J% = POS(STR(ILINE$(),IL%,81-IL%) > " ")                        JM
009470    IF J%=0 THEN GETLNE                                             JM
009480                                                                    JM
009490    IL% = IL% + J% - 1                     /* RESET LINE POINTER */ JM
009500                                                                    JM
009510 /* GET END POSITION */                                             JM
009520    J% = POS(STR(ILINE$(),IL%,81-IL%) = " ")                        JM
009530    IF J%<>0 THEN FIND                                              JM
009540    W$=STR(ILINE$(), IL%,81-IL%)                                    JM
009550 CR:GOSUB GETLINE                                                   JM
009560    J%=POS(STR(ILINE$(),IL%,81-IL%) = " ")                          JM
009570    IF J%=1 THEN DONE1                                              JM
009572    IF J%=0 THEN CR                                                 JM
009580    WLEN%=MIN(30,J%-1)       /* HAD TO MAKE THIS LARGER THAN 25! */ JM
009590    WORDS$=STR(ILINE$(),IL%,WLEN%)                                  JM
009600    WORDS$=W$ & WORDS$                                              JM
009610    WLEN%=LEN(WORDS$)                                               JM
009620    GOTO INCR                                                       JM
009630                                                                    JM
009640 DONE1:WORDS$=W$                                                    JM
009650    WLEN%=LEN(WORDS$)                                               JM
009660    GOTO INCR                                                       JM
009670 FIND:                                                              JM
009680    WLEN%= MIN(30,J% - 1)     /* HAD TO MAKE THIS LARGER THAN 25 */ JM
009690    WORDS$=STR(ILINE$(),IL%,WLEN%)                                  JM
009700                                                                    JM
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009710 INCR: IF WLEN%<2 THEN ARON                        /* CAN'T BE @@ */ JM
009720       IF WORDS$="@@" OR STR(WORDS$,1,2)="@@" THEN GOSUB ANALSKIP    JM
009730       IF I%=4 THEN RET                               /* EOF FOUND */ JM
009740 ARON: IW% = MIN(5,IW%+1) /* RESET POINTER FOR ARRAY OF WORDS */     JM
009750       IL%=IL%+J%   :LW%(IW%)=WLEN%                                  JM
009760                                                                     JM
009770 /* CHECK FOR CARRIAGE RETURN ( FLAGS END OF PARAGRAPH ) */          JM
009780    IF STR(WORDS$,WLEN%,1) = HEX(03) THEN END_O_PAR$="Y"             JM
009790    I% = 1                                       /* FLAG A SUCCESS */ JM
009800    GOTO RET                                                         JM
009810                                                                     JM
009820 /* CALL THE ROUTINE TO GET THE NEXT LINE AND RESET POINTERS */      JM
009830                                                                     JM
009840 GETLNE:                                                             JM
009850    GOSUB GETLINE                                                    JM
009860    IF I% = 1 THEN GETSTPOS                                          JM
009870 RET:                                                                JM
009880      RETURN                         /* GETWORD SUBROUTINE RETURN */ JM
009890                                                                     JM
009900 /************************************************************/ JM
009910 /*                                                            */ JM
009920 /*  THIS SUBROUTINE SKIPS ANY TEXT THAT USER SPECIFIES AND DOES */ JM
009930 /*  NOT ANALYZE THAT TEXT.                                    */ JM
009940 /*                                                            */ JM
009950 /************************************************************/ JM
009960                                                                     JM
009970 ANALSKIP:   /* ANALSKIP START */                                    JM
009980    IF IO%+WLEN% > LL% THEN GOSUB PRTLNE                             JM
009990    STR(OLINE$,IO%,WLEN%)=WORDS$                                     JM
010000    IO%=IO%+WLEN%+1                                                  JM
010010    I%=0                                                             JM
010020    QUIT%=0    /* FLAG TO TELL US WHEN ANOTHER @@ HAS BEEN FOUND */ JM
010030    IL%=MAX(1,IL%+WLEN%+1)                                           JM
010040    IF IL% > 80 THEN GETLNE1                                         JM
010050                                                                     JM
010060 GETSTPOS1:                               /* GET THE START POSITION */ JM
010061    J%=0                                                             JM
010062    IF IL%>80 THEN 10080                                             JM
010070    J% = POS(STR(ILINE$(),IL%,81-IL%) > " ")                         JM
010080    IF J%=0 THEN GETLNE1                                             JM
010090    IL% = IL% + J% - 1                        /* RESET LINE POINTER */ JM
010100                                                                     JM
010110 /* GET END POSITION */                                              JM
010120    J% = POS(STR(ILINE$(),IL%,81-IL%) = " ")                         JM
010130    IF J%<> 0 THEN FIND1                                             JM
010140    W$=STR(ILINE$(), IL%,81-IL%)                                     JM
010150    GOSUB GETLINE                                                    JM
010160    J%=POS(STR(ILINE$(),IL%,81-IL%) = " ")                           JM
010170    IF J%=1 THEN DONE2                                               JM
010180    WLEN%=MIN(30,J%-1)       /* HAD TO MAKE THIS LARGER THAN 25! */ JM
010190    WORDS$=STR(ILINE$(),IL%,WLEN%)                                   JM
010200    WORDS$=W$ & WORDS$                                               JM
010210    WLEN%=LEN(WORDS$)                                                JM
010220    GOTO INCR1                                                       JM
010230                                                                     JM
010240 DONE2:WORDS$=W$                                                     JM
010250    WLEN%=LEN(WORDS$)                                                JM
```

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```
010260    GOTO INCR1                                                       JM
010270 FIND1:                                                              JM
010280    WLEN%= MIN(30,J% - 1)     /* HAD TO MAKE THIS LARGER THAN 25 */ JM
010290    WORDS$=STR(ILINE$(),IL%,WLEN%)                                   JM
010300                                                                     JM
010310 INCR1: IF QUIT%=1 THEN RET1            /* WE'RE READY TO LEAVE */ JM
010320        IF IO%+WLEN%>LL% THEN GOSUB PRTLNE                           JM
010330        STR(OLINE$,IO%,WLEN%)=WORDS$                                 JM
010340        IO%=IO%+WLEN%+1                                              JM
010350        IL%=IL%+J%                      /* INCREMENT LINE POINTER */ JM
010360       IF STR(WORDS$,WLEN%,1)=HEX(03) THEN GOSUB PRTLNE/* END/PAR*/ JM
010370        IF WLEN%<2 THEN GETSTPOS1                                    JM
010380        IF (WORDS$<>"@@" AND QUIT%=0) OR                           ! JM
010390        (STR(WORDS$,WLEN%-1,2)<>"@@" AND QUIT%=0) THEN GETSTPOS1     JM
010400        QUIT%=1                              /* IF HERE, FOUND @@ */ JM
010410        GOTO GETSTPOS1                                               JM
010420                                                                     JM
010430 GETLNE1:                                                            JM
010440    GOSUB GETLINE                                                    JM
010450    IF I% = 1 THEN GETSTPOS1                                         JM
010460                                                                     JM
010470 RET1:  RETURN       /* ANALSKIP END */                              JM
010480                                                                     JM
010490 /***************************************************************/ JM
010500 /*                                                             */ JM
010510 /*  THIS SUBROUTINE FILLS THE BUFFER WITH A LINE OF TEXT.      */ JM
010520 /*                                                             */ JM
010530 /***************************************************************/ JM
010540                                                                     JM
010550 GETLINE:                                                            JM
010560   I%, IL% = 1                                /* Assume Success */ JM
010570   ILINE$() = ALL(HEX(20))                                           JM
010580   CALL "WPREAD" ADDR(RET%,#1,"N",ILINE$(),80%,"L")                  JM
010582    TRAN( ILINE$(),TABLE$())                                         JM
010590   IF RET% = 0 OR RET% = 24 THEN GET_RET             /* Success */ JM
010600   IF RET% = 28 THEN EOF                                 /* EOF */ JM
010610   PRINT AT (22,1); "Error on WPREAD #1"               /* Error */ JM
010620   I% = 0                                                            JM
010630  GOTO GET_RET                                                       JM
010640 EOF: I% = 4  /*:STOP "FINISHED" */                                  JM
010650 GET_RET:                                                            JM
010660          RETURN                  /* GETLINE SUBROUTINE RETURN */ JM
010670                                                                     JM
010680 /***************************************************************/ JM
010690 /*                                                             */ JM
010700 /* THIS SUBROUTINE ANALYSES THE WORD.                          */ JM
010710 /*                                                             */ JM
010720 /***************************************************************/ JM
010730                                                                     JM
010740 CHKWORD:                                                            JM
010750    WS% = WS% + 1             /* INCREMENT WORDS PER SENTENCE */ JM
010760    IF CW$ <> "P" THEN CW$ = " "                                     JM
010770    LEN% = WLEN% :LW%(1)=LEN%                                        JM
010780    WORD1$ = WORDS$                                                  JM
010790    GOSUB SPUNK                 /* STRIP PUNC. FROM THE WORD */ JM
010800    IF CLSPOS$ <> "B" THEN SAV_ORGWD                                 JM
010810    TPASSV%, PASSV% = 0                                              JM
```

```
                                                                    JM
SAV_ORGWD:           /* SAVE THE ORIG. WORD FOR UNCOM. WORD LIST */ JM
    WORDO$ = WORD1$                                                 JM
    TRAN( WORD1$,                                                 ! JM
        "AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz" )  ! JM
         REPLACING                                                  JM
                                                                    JM
    /*    P. KINCAID ASKED FOR THIS PROGRAM TO FIND THE PHRASE */   JM
    /* 'CONSIST(S) OF' FOLLOWED BY 3 COMMAS IN A LONG SENTENCE */   JM
    /* AND FLAG IT BY THE TERM 'LIST?' AFTER THE LONG SENTENCE */   JM
    /* FLAG.  SINCE 'CONSIST(S) OF' IS NOT IN THE PHRASE SUB.  */   JM
    /* LIST, I USE THE FLAG CONSIS% TO HELP ME FIND IT.        */   JM
    /* CONSIS%=0 IMPLIES PHRASE NOT FOUND; CONSIS%=1 IMPLIES   */   JM
    /* PHRASE 'CONSIST(S) OF' FOUND; CONSIS%=10 IMPLIES        */   JM
    /* 'CONSIST(S)' FOUND (NOW LOOK FOR 'OF');                 */   JM
                                                                    JM
    IF WORD1$ = "OF" AND CONSIS% = 10 THEN CONSIS%=1  /* 'LIST?' */ JM
    IF CONSIS%=10 THEN CONSIS%=0                                    JM
    IF STR(WORD1$,1,7)="CONSIST" THEN CONSIS%=10                    JM
    WORD2$=WORD1$                                                   JM
    SLASH%=POS(STR(WORD1$,1,LEN%)="/")      /* 2 WORDS AND A "/" */ JM
    IF SLASH%=0 THEN DOIT                       /* ONLY ONE WORD */ JM
    IF SLASH%=1 AND LEN%=1 THEN DOIT           /* ONLY ONE SLASH */ JM
    WRDLEN%=LEN%                       /* SAVE THE ORIGINAL LEN% */ JM
    HOLD2$=STR(WORD1$,SLASH%+1,LEN%-SLASH%)     /* SAVE 2ND WORD */ JM
    LEN%=LEN%-(LEN%-SLASH%+1)      /* COMPUTE THE LEN FOR WORD 1 */ JM
    STR(WORD1$,SLASH%)=ALL(HEX(20))        /* BLANK OUT 2ND WORD */ JM
    GOTO DOIT1                                                      JM
DOIT: SLASH%=POS(STR(WORD1$,1,LEN%)="-")                            JM
    IF SLASH%=0 THEN DOIT1                                          JM
    Z99$=STR(WORD1$,1,LEN%)    /* CHECK IF "-" SEPERATES NUMBERS */ JM
    A0%=POS(Z99$="0")                           /* LOOK FOR ZERO */ JM
    A1%=POS(Z99$="1")                            /* LOOK FOR ONE */ JM
    A2%=POS(Z99$="2")                            /* LOOK FOR TWO */ JM
    A3%=POS(Z99$="3")                          /* LOOK FOR THREE */ JM
    A4%=POS(Z99$="4")                           /* LOOK FOR FOUR */ JM
    A5%=POS(Z99$="5")                           /* LOOK FOR FIVE */ JM
    A6%=POS(Z99$="6")                            /* LOOK FOR SIX */ JM
    A7%=POS(Z99$="7")                          /* LOOK FOR SEVEN */ JM
    A8%=POS(Z99$="8")                          /* LOOK FOR EIGHT */ JM
    A9%=POS(Z99$="9")                           /* LOOK FOR NINE */ JM
    A10%=A0%+A1%+A2%+A3%+A4%+A5%+A6%+A7%+A8%+A9%                    JM
    IF A10%<>0 THEN SLASH%=0                                        JM
    IF LEN%=1 THEN SLASH%=0                                         JM
    IF SLASH%=0 THEN DOIT1                                          JM
    WRDLEN%=LEN%                       /* SAVE THE ORIGINAL LEN% */ JM
    HOLD2$=STR(WORD1$,SLASH%+1,LEN%-SLASH%)     /* SAVE 2ND WORD */ JM
    LEN%=LEN%-(LEN%-SLASH%+1)      /* COMPUTE THE LEN FOR WORD 1 */ JM
    STR(WORD1$,SLASH%)=ALL(HEX(20))        /* BLANK OUT 2ND WORD */ JM
DOIT1: GOSUB SYLLY                                                  JM
    IF SLASH%=0 THEN ARND                         /* ONLY 1 WORD */ JM
    LEN%=WRDLEN%-SLASH%                 /* COMPUTE 2ND WORD LEN% */ JM
    WORD1$=HOLD2$                /* FILL IN 2ND WORD IN VARIABLE */ JM
    SYLCT%=TLC%                      /* SAVE 1ST WORD SYL. COUNT */ JM
    GOSUB SYLLY                                                     JM
    LEN%=WRDLEN%                          /* RESTORE WORD LENGTH */ JM
    TLC%=TLC%+SYLCT%                 /* ADD TWO WORDS' SYL COUNT */ JM
```

```
011390    WORD1$=WORD2$                        /* RESTORE THE ORIGINAL WORD */ JM
011400 ARND:                                                                   JM
011440    IF WORD1$="-" OR WORD1$="/" THEN TLC%=0       /* NO SYLLABLES */ JM
011450    WW%=WW%+1   /* KEEP # OF WORDS PROCESSED FOR PROGRESS SCREEN */ JM
011460    IF WW%=250 THEN GOSUB UPDATE       /* REPORT PROGRESS TO USER */ JM
011461    IF STR(WORDO$,1,1)>="A" AND STR(WORDO$,1,1)<="Z" AND            ! JM
011462       SENTPOS$<>"B" THEN SKPR                                           JM
011470 /* LOOK FOR "N'T" */                                                    JM
011480    IF LEN% < 5 THEN LOOK                                                JM
011490    IF STR(WORD1$,LEN%-2,3) <> "N'T"                                  ! JM
011500       THEN LOOK                                                         JM
011510    INVLD$ = " "                                  /* WORD OK SO FAR */ JM
011520    NEG%(1+NEG%(3)) = NEG%(1+NEG%(3)) + 1                                JM
011530                                                                         JM
011540 LOOK:                   /* LOOK UP WORD IN WORD SUBSTITUTION LIST */ JM
011550    FOUND$ = " "                                                         JM
011560    IF INVLD$ = "Y" OR (INVLD$ = "P" AND SENTPOS$ <>"E")               ! JM
011570       THEN SKPR                                                         JM
011580    RECORD$ = STR(WORD1$,1,LEN%)                                         JM
011600    TECH% = 0                                                            JM
011610    READ #3, KEY = STR(RECORD$,1,20), REC1$, EOD GOTO CWL                JM
011620    Q$ = STR(REC1$,56,1)                                                 JM
011630    GOTO SAVSUBS                                                         JM
011640 CWL: READ #2, KEY = STR(RECORD$,1,20), RECORD$, EOD GOTO CHEKTECH  JM
011650    Q$ = STR(RECORD$,21,1)                                               JM
011660      GOTO GOOD                                                          JM
011670                                                                         JM
011680 CHEKTECH:    /* SEE IF WORD IS IN THE SELECTED TECH. WORD LISTS */ JM
011690    FOR J% = 5 TO 11                                                     JM
011700       IF  TECFIL$(J%-4)<>  "        " THEN                            ! JM
011710         READ #J%, KEY = STR(RECORD$,1,20),RECORD$,EOD GOTO ANOTHA! JM
011720         ELSE ANOTHA                                                     JM
011730       Q$ = STR(RECORD$,21,1)                                            JM
011740       TECH% = 1  :  J% = 12                                             JM
011750 ANOTHA:  NEXT J%                                                        JM
011760    IF TECH% = 0 THEN UNCWD ELSE GOOD                                    JM
011770                                                                         JM
011780 SKPR:                             /* INVALID WORD, SKIP PROCESSING */ JM
011790    CW$ = "N"                                                            JM
011800    INVLD$ = "Y"                                                         JM
011810    IF SLASH%>=1 THEN UNCWD  /* "/" OR "-" IN WORD; PUT IN UNCOM.*/ JM
011820  GOTO CHKLCLS                                                           JM
011830                                                                         JM
011840 SAVSUBS:                     /* FOUND WORD IN WORD SUBSTITUTION LIST*/ JM
011850    IF NUM_SUB$="0" THEN CHKLCLS      /* NO NEED FOR SUBSTITUTES */ JM
011860    A$=STR(REC1$,56,1)                   /* FETCH THE PART OF SPEECH */ JM
011870    WSL$="Y"          /* SET FLAG TO FETCH SUBSTITUTES IN SELOPT */ JM
011880    RECORD$ = STR(RECORD$,1,20) & STR(REC1$,56,3)                        JM
011900    GOTO CHK                                                             JM
011910 UNCWD:                                       /* SAVE UNCOMMON WORD */ JM
011920    IF INVLD$ = "P" THEN SKPR                        /* REALLY INVALID */ JM
011930    IF ABBRE%=0 THEN SKP  /* CHECK IF IN OUR ABBRE/MNEMONIC LIST */ JM
011940    FOUN%=0                                                              JM
011950    FOR QD%=1 TO ABBRE%                                                  JM
011960    IF STR(WORD1$,1,LEN%)>STR(ABBRE$(QD%),1,LEN%) THEN QD%=ABBRE%    JM
011970    IF STR(WORD1$,1,LEN%) <> STR(ABBRE$(QD%),1,LEN%) THEN DRP         JM
011980    IF LEN(ABBRE$(QD%))>LEN%+1 THEN DRP   /*TAKE CARE OF '.' LEN */ JM
```

```
   FOUN%=1                                                       JM
   QD%=ABBRE%                                                    JM
DRP: NEXT QD%                                                    JM
    IF FOUN%=1 THEN SKPR                                         JM
SKP:  CW$ = "N"                          /* PHRASE NOT POSSIBLE */ JM
   IF INVLD$="Y" THEN JUMP                                       JM
   IF UNCOM$ <> "Y" THEN GOOD                                    JM
JUMP: IF UNCPT%<21 THEN UNC$(UNCPT%)=WORDO$       /* ROOM FOR 20 */ JM
   UNCPT%=UNCPT%+1                                               JM
   IW%=MAX(IW%,PHCT%)                                            JM
   UCWFLG$(IW%) = "Y"                                            JM
   UW% = UW% + 1                        /* COUNT UNCOMMON WORDS */ JM
 GOTO CHKLCLS                                                    JM
                                                                 JM
GOOD:                   /* GOOD WORD SO FAR, EVALUATE ATTRIBUTES */ JM
   FOUND$ = "Y"                                                  JM
   A$ = STR(RECORD$,21,1)                                        JM
CHK: IF (A$ = "P" OR  A$ = "A" OR A$ = "a" ) AND CLSPOS$ = "B"  ! JM
       THEN CLSPOS$ = "Y"                                        JM
   IF A$="V" AND CLSPOS$="B" THEN CLSPOS$="Y"                    JM
   IF CLSPOS$ = "Y" THEN NC% = NC% + 1   /* INC. # WORDS/CLAUSE */ JM
   IF A$ <> "C" THEN SYLC                                        JM
   CLSPOS$ = "E"                              /* SET END OF CLAUSE */ JM
   NEG%(1), NEG%(2), PASSV%, TPASSV% = 0                         JM
                                                                 JM
SYLC:                                     /* CHECK SYLLABLE COUNT */ JM
                                                                 JM
       /* MANDATORY TECHNICAL WORDS COUNT AS 1 SYLLABLE! */      JM
                                                                 JM
   IF TECH%=1 AND STR(RECORD$,27,1)="*" THEN TLC%=1              JM
                                                                 JM
/* WE'RE CHECKING FOR 'BY' IMMEDIATELY FOLLOWING OR IMMEDIATELY */ JM
/* PRECEEDING 'TO BE' AND A PAST PARTICIPLE.  PREV%=1 IMPLIES   */ JM
/* WE JUST FOUND A PAST PARTICIPLE ON OUR LAST PASS THROUGH AND */ JM
/* 'TO BE' WAS FOUND EARLIER IN THE CLAUSE AND IF WE NOW FIND   */ JM
/* 'BY', FULL PASSIVE VOICE IS REALIZED (PASSV%=7). OTHERWISE,  */ JM
/* MAKE SURE PREV% IS RESET.  LIKEWISE, BYFLAG%=1 IMPLIES WE    */ JM
/* HAVE JUST FOUND 'BY' AND WE'RE NOW LOOKING FOR 'TO BE'       */ JM
/* IMMEDIATELY FOLLOWING. IF 'TO BE' FOUND, SET PASSV%=4 SO     */ JM
/* 'TO BE' CODE WILL INCREMENT PASSV% TO 6 AND ALL WE NEED IS   */ JM
/* PAST PARTICIPLE.                                             */ JM
                                                                 JM
   /* 'TO BE' DOESN'T BEGIN SENTENCES, EXCEPT 'BE' IMPERATIVE  */ JM
                                                                 JM
   IF SENTPOS$="B" AND WORD1$<>"BE" THEN CHKDN                   JM
   IF PASSV$="Y" AND STR(RECORD$,1,3)="BY " AND PREV%=1        ! JM
   THEN PASSV%=7                                                 JM
   IF PASSV$="Y" AND STR(RECORD$,24,1)="*" AND BYFLAG%=1       ! JM
   THEN PASSV%=4                                                 JM
   PREV%, BYFLAG% =0                                             JM
   IF PASSV%=3 THEN PASSV%=0    /* 'BY' AFTER 1ST P. PARTICIPLE */ JM
   IF PASSV$<>"Y" THEN CHKTPV              /* PASSV OPTION NOT ON */ JM
   IF (STR(RECORD$,24,1) = " " AND STR(RECORD$,22,1)=" ") THEN  ! JM
           CHKBY      /* NO PASSIVE OR TRUNCATED PASSIVE CHECK */ JM
                                                                 JM
/* CHECK FOR PAST PARTICIPLE - ELSE DROP TO VERB TO BE */         JM
   IF STR(RECORD$,22,1) = "*"  THEN PSTPART                      JM
```

```
012560                                                   /* VERB TO BE */ JM
012570    IF PASSV% = 0 OR PASSV% = 4 THEN PASSV% = PASSV% + 1                JM
012580   GOTO CHKTPV                                                          JM
012590                                                                        JM
012600 PSTPART:                                        /* PAST PARTICPLE */ JM
012610    IF PASSV% = 1 OR PASSV% = 5 THEN PASSV% = PASSV% + 2                JM
012620    IF PASSV% = 3 THEN PREV% = 1       /* SET TO FIND 'BY' NEXT */ JM
012630                                                                        JM
012640 CHKBY:                                          /* CHECK FOR 'BY' */ JM
012650    IF STR(RECORD$,1,3) = "BY " THEN BYFLAG%=1                        : JM
012660                                                                        JM
012670 CHKTPV: IF TRNK_PV$<>"Y"  THEN CHKDN   /* TRNK_PV OPTION NOT ON */ JM
012680       PREV%, BYFLAG% = 0                                               JM
012690       IF (STR(RECORD$,24,1) = " " AND STR(RECORD$,22,1)=" ") THEN : JM
012700              CHKDN            /* NO NEED FOR TRU. PASSIVE CHECK */ JM
012710                                                                        JM
012720 /* PAST PARTICIPLE */                                                  JM
012730    IF STR(RECORD$,22,1) = "*"  THEN PSTPART1                          JM
012740                                                   /* VERB TO BE */ JM
012750    IF TPASSV% = 0 THEN TPASSV% = TPASSV% + 1                           JM
012760   GOTO CHKDN                                                           JM
012770                                                                        JM
012780 PSTPART1:                                       /* PAST PARTICPLE */ JM
012790    IF TPASSV% = 1 THEN TPASSV% = TPASSV% + 2                           JM
012800                                                                        JM
012810 CHKDN:                           /* CHECK FOR A DOUBLE NEGATIVE */ JM
012820    IF NEG$ <> "Y" THEN CNTPREP        /* DON'T CHECK DOUBLE NEG. */ JM
012830    IF STR(RECORD$,23,1) = "*"  THEN                                  : JM
012840       NEG%(1+NEG%(3)) = NEG%(1+NEG%(3)) + 1                            JM
012850                                                                        JM
012860 CNTPREP:                                   /* COUNT PREPOSITIONS */ JM
012870    IF PREP_CNT$ <> "Y"   OR   STR(RECORD$,21,1) <> "P"               : JM
012880       THEN CHKPS                                                       JM
012890    PS% = PS% + 1                                                       JM
012900                                                                        JM
012910 CHKPS:                          /* CHECK FOR PERSONAL SENTENCES */ JM
012920    IF PERS_SENT$ <> "Y" THEN CNTNU                                     JM
012930    IF STR(RECORD$,21,1) = "O" AND STR(RECORD$,1,1) = "Y"             : JM
012940       THEN PERSENT$ = "Y"  /* THE WORD IS A DERIVATIVE OF 'YOU' */ JM
012950    IF SENTPOS$ = "B" AND STR(RECORD$,21,1) = "V"                     : JM
012960        THEN PERSENT$ = "Y"         /* IMPLIED PERSONAL SENT. */ JM
012970    IF WORD1$="I" THEN PERSENT$="Y"        /* 1ST PERSON SINGULAR */ JM
012980    IF WORD1$="WE" THEN PERSENT$="Y"        /* 1ST PERSON PLURAL */ JM
012990    IF WORD1$="MY" THEN PERSENT$="Y"     /* 1ST PERSON POSSESSIVE */ JM
013000    IF WORD1$="OUR" THEN PERSENT$="Y"       /* PLURAL POSSESSIVE */ JM
013010                                                                        JM
013120                                                                        JM
013130                         /* SEARCH FOR 'WILL' OR 'SHALL' */            JM
013140    IF STR(RECORD$,1,5) = "WILL " OR STR(RECORD$,1,6) = "SHALL "  : JM
013150       THEN SETFUTR                                                     JM
013160    GOTO SETPRES                                                        JM
013220                                                                        JM
013230 SETFUTR:                                     /* SET FUTURE TENSE */ JM
013240    VRBT% = 3                                                           JM
013250   GOTO CNTNU                                                           JM
013260                                                                        JM
013270 SETPRES:                                    /* SET PRESENT TENSE */ JM
```

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013280    IF VRBT% = 0 THEN VRBT% = 1                                     JM
013290                                                                    JM
013300 CNTNU: IF PASSV$<>"Y" THEN CDNF1/* CONTINUE CHECKING, SET FLAGS */ JM
013310    IF TRNK_PV$="Y" THEN CDNF1 /* ALL REGULAR PV'S ARE TRNK PV'S */ JM
013320    IF PASSV% <> 7 THEN CDNF1                         /* NOT YET */ JM
013330    PASSVF$(IW%) ="Y"                                /* SET FLAG */ JM
013340    PASSV% = 0                                    /* RESET VALUE */ JM
013350                                                                    JM
013360 CDNF1: IF TRNK_PV$<>"Y" THEN CDNF    /* TRUNCATED PASSIVE VOICE */ JM
013370    IF TPASSV% <> 3 THEN CDNF                         /* NOT YET */ JM
013380    PASSVF$(IW%) = "Y"                               /* SET FLAG */ JM
013390    TPASSV%=0                      /* RESET TRUNCATED PASSV FLAG */ JM
013400                                                                    JM
013410 CDNF:                             /* CHECK DOUBLE NEGATIVE FLAG */ JM
013420    IF NEG%(1) <>  2 THEN NG                          /* NOT YET */ JM
013430    DNFL$(IW%) = "Y"                                 /* SET FLAG */ JM
013440    NEG%(1) = 0                                   /* CLEAR VALUE */ JM
013450  GOTO CHKNOUN                                  /* ONE AT A TIME */ JM
013470                                                                    JM
013480 NG:                                                                JM
013490    IF NEG%(2) <>  2 THEN CHKNOUN             /* NOT HERE EITHER */ JM
013500    DNFL$(IW%) = "Y"                                 /* SET FLAG */ JM
013510    NEG%(2) = 0                                   /* CLEAR VALUE */ JM
013520                                                                    JM
013530 CHKNOUN:                             /* CHECK NOUN STRING COUNT */ JM
013540    IF NOUNSTR% < 4 THEN CHKLCLS                      /* NOT YET */ JM
013550    NOUNFL$(IW%) = "Y"                               /* SET FLAG */ JM
013560    NOUNSTR% = 0                                  /* CLEAR VALUE */ JM
013570                                                                    JM
013580 CHKLCLS:     /* CHK END OF CLAUSE, END OF SENT. AND LONG CLAUSE */ JM
013590    IF CLSPOS$ <> "E" THEN CHKLSENT         /* NOT END OF CLAUSE */ JM
013600    IF NC% > 10 THEN LCLSFL%(IW%) = NC%              /* SET FLAG */ JM
013610    NC% = 0                                                         JM
013620                                                                    JM
013630 CHKLSENT:                               /* CHECK LONG SENTENCES */ JM
013640    IF SENTPOS$ <> "E" THEN CW_RET                                  JM
013650    IF WS% < 23 THEN CHKNPR                                         JM
013660    LSENT%(IW%) = WS%                                               JM
013670    LS% = LS%  +  1                                                 JM
013680                                                                    JM
013690 CHKNPR:                              /* CHECK FOR TOO MANY PREPS */ JM
013700    IF PREP_CNT$ <> "Y" OR PS% = 0         /* DON'T CHECK PREPS */! JM
013710       THEN CLEARFLDS                                               JM
013720    J = WS% * 10 / PS%                              /* GET RATIO */ JM
013730    IF PS% > 2 AND J < 54 THEN PREPFL%(IW%) = PS%    /* SET FLAG */ JM
013740                                                                    JM
013750 CLEARFLDS:                               /* CLEAR COUNT FIELDS */ JM
013760    WS%, PS% = 0                                                    JM
013770    SP% = SP% + 1                           /* COUNT SENT. / PAR. */ JM
013780    SC% = SC% + 1                              /* COUNT SENTENCES */ JM
013790    EOS%=1                           /* SET END OF SENTENCE FLAG */ JM
013860    IF PERSENT$ <> "Y" THEN CLRWRK         /* NO PERS. SENT FOUND */ JM
013870    PE% = PE% + 1                            /* COUNT PERS. SENT. */ JM
013880    PERSENT$ = " "                                                  JM
013890                                                                    JM
013900 CLRWRK:                                      /* CLEAR WORK AREA */ JM
013910    MAT NEG% = ZER                                                  JM
```

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013920                                                                    JM
013930 /* CHECK VERB AGREEMENT */                                         JM
013940    IF VRBAG% = 0 THEN VRBAG% = VRBT%                               JM
013950    IF VRBAG% <> VRBT% THEN VRBAG% = -99                            JM
013960    VRBT% = 0                                                       JM
013970                                                                    JM
013980 CW_RET:                                                            JM
013990         IF SENTPOS$="B" THEN SENTPOS$=" "             /* OK HERE */ JM
014010         I% = 1 : RETURN        /* CHECK WORD SUBROUTINE RETURN */ JM
014020                                                                    JM
014030 /****************************************************************/ JM
014040 /*                                                              */ JM
014050 /*  SUBROUTINE UPDATE KEEPS THE USER ABREAST OF PROGRESS OF THE */ JM
014060 /*  ANALYSIS BY DISPLAYING MESSAGES OF PROCEEDINGS AT THE       */ JM
014070 /*  TERMINAL.                                                   */ JM
014080 /*                                                              */ JM
014090 /****************************************************************/ JM
014100                                                                    JM
014110 UPDATE: WW1%=WW1%+WW%       :WW%=0              /* KEEP TOTALS */  JM
014120 IF WW1%=0 THEN UPDMSG$="Working...  Performing CRES Analysis..."   JM
014130 IF WW1%=0 THEN LUPE                     /* SKIP COMPUTING A MESSAGE */ JM
014140 CONVERT WW1% TO WW1$,PIC(#####)      /* CONVERT TO ALPHANUMERIC */ JM
014150 LN%=LEN(WW1$)                              /* COMPUTE THE LENGTH */ JM
014160                                                                    JM
014170        /* DECIDE WHICH MESSAGE TO DISPLAY TO THE USER */           JM
014180                                                                    JM
014190 IF STR(WW1$,LN%-2,3)="250" THEN UPDMSG$=          STR(WW1$,1,LN%)! JM
014200  & " Words Processed - ANALYSIS Proceeding..."                     JM
014210 IF STR(WW1$,LN%-2,3)="500" THEN UPDMSG$= WW1$ &" Words Processed ! JM
014220 - ANALYSIS Continuing..."                                          JM
014230 IF STR(WW1$,LN%-2,3)="750" THEN UPDMSG$= WW1$ &" Words Examined -! JM
014240  ANALYSIS Proceeding..."                                           JM
014250 IF STR(WW1$,LN%-2,3)="000" THEN UPDMSG$= WW1$ &" Words Analyzed -! JM
014260  ANALYSIS Continuing..."                                           JM
014270 LUPE:                                                              JM
014280 DISPLAY                                                          ! JM
014290       AT (01,03),                                                ! JM
014300 "CRES: Document Analysis Subsystem                  (Status of Ana! JM
014310 lysis Screen)",                                                  ! JM
014320       AT (02,03),                                                ! JM
014330 "================================================================! JM
014340 =============",                                                  ! JM
014350       AT (12,20),                                                ! JM
014360  UPDMSG$,CH(51)                                                    JM
014370 RETURN                                  /* UPDATE SUBROUTINE END */ JM
014380                                                                    JM
014390                                                                    JM
014400 /****************************************************************/ JM
014410 /*                                                              */ JM
014420 /* THIS SUBROUTINE COUNTS THE SYLLABLES IN A WORD.              */ JM
014430 /*                                                              */ JM
014440 /****************************************************************/ JM
014450                                                                    JM
014460 SYLLY:                                                             JM
014470                                                                    JM
014480    /* CLEAR COUNT    */                                            JM
014490                                                                    JM
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014500        N%=0       /* USED TO COUNT SYLLABLES FROM THE FRONT */      JM
014510        R%=0       /* USED TO COUNT SYLLABLES FROM THE REAR */       JM
014520        M%=LEN%                                                      JM
014530        IF LEN%=1 THEN FINIS                                         JM
014540                                                                     JM
014550      /* CHECK FOR A NUMBER IN THIS WORD */                          JM
014560                                                                     JM
014570        Z99$=STR(WORD1$,1,LEN%)                                      JM
014580        A0%=POS(Z99$="0")                         /* LOOK FOR ZERO */ JM
014590        A1%=POS(Z99$="1")                          /* LOOK FOR ONE */ JM
014600        A2%=POS(Z99$="2")                          /* LOOK FOR TWO */ JM
014610        A3%=POS(Z99$="3")                        /* LOOK FOR THREE */ JM
014620        A4%=POS(Z99$="4")                         /* LOOK FOR FOUR */ JM
014630        A5%=POS(Z99$="5")                         /* LOOK FOR FIVE */ JM
014640        A6%=POS(Z99$="6")                          /* LOOK FOR SIX */ JM
014650        A7%=POS(Z99$="7")                        /* LOOK FOR SEVEN */ JM
014660        A8%=POS(Z99$="8")                        /* LOOK FOR EIGHT */ JM
014670        A9%=POS(Z99$="9")                         /* LOOK FOR NINE */ JM
014680        A10%=A0%+A1%+A2%+A3%+A4%+A5%+A6%+A7%+A8%+A9%                JM
014690        IF A10%<>0 THEN CURVE    /* NUMBER FOUND; ONLY 1 SYLLABLE */ JM
014700                                                                     JM
014710    /* SET START POINTER   */                                        JM
014720                                                                     JM
014730        K%=1                                                         JM
014740        IF LEN%<3 THEN VENT                                          JM
014750                                                                     JM
014760    /* STRIP UNUSED ENDINGS  */                                      JM
014770                                                                     JM
014780        IF WORD1$="AREA" OR WORD1$="AREAS" THEN AREA                 JM
014790                                                                     JM
014800 /* THESE NEXT TWO 'IF' STATEMENTS CATCH WORDS WITH UNUSUAL */       JM
014810 /* ENDINGS (LIKE 'RADIO', 'AUDIO', AND SOME PLURALS) AND AID */     JM
014820 /* THIS SUBROUTINE IN CORRECTLY COUNTING THEIR SYLLABLES. */        JM
014830                                                                     JM
014840        IF POS("OA"=STR(WORD1$,LEN%,1))>0 AND STR(WORD1$,LEN%,1)<>  ! JM
014850        STR(WORD1$,LEN%-1,1) AND POS("AEIOUY"=STR(WORD1$,LEN%-2,1)) ! JM
014860        =0 AND POS("AIOUY"=STR(WORD1$,LEN%-1,1))>0 THEN AREA         JM
014870        IF POS("OA"=STR(WORD1$,LEN%-1,1))>0 AND STR(WORD1$,LEN%-1,1)! JM
014880      <>STR(WORD1$,LEN%-2,1) AND POS("AEIOUY"=STR(WORD1$,LEN%-3,1)) ! JM
014890        =0 AND POS("AIOUY"=STR(WORD1$,LEN%-2,1))>0 AND              ! JM
014900        STR(WORD1$,LEN%,1)="S" THEN AREA                             JM
014910                                                                     JM
014920    /* THIS NEXT BLOCK OF CODE STRIPS OFF FRONT AND TRAILING */       JM
014930    /* PARTS OF SPECIFIC WORDS, AND HELPS US HANDLE THINGS LIKE */    JM
014940    /* IMBEDDED SILENT 'E'S IN WORDS.                          */     JM
014950                                                                     JM
014960 VENT:IF STR(WORD1$,1,5)="THERE" AND M%>5 THEN THES                  JM
014970        IF STR(WORD1$,LEN%-3,4)="NING" THEN NING                     JM
014980        IF STR(WORD1$,LEN%-3,4)="IALS" THEN MENT                     JM
014990        IF STR(WORD1$,LEN%-2,3)="DII" THEN AREA                      JM
015000        IF STR(WORD1$,LEN%-2,3)="ING" THEN THREE                     JM
015010        IF STR(WORD1$,LEN%-2,3)="IER" THEN TWO                       JM
015020        IF STR(WORD1$,LEN%-2,3)="IOR" THEN THREE                     JM
015030        IF STR(WORD1$,LEN%-2,3)="IAL" THEN CHKD                      JM
015040        IF STR(WORD1$,LEN%-2,3)="QUE" THEN QUE                       JM
015050        IF STR(WORD1$,LEN%-2,3)="GUE" THEN QUE                       JM
015060        IF STR(WORD1$,LEN%-1,2)="AL" THEN TWO                        JM
```

```
     IF STR(WORD1$,LEN%-1,2)="LY" THEN TWO                             JM
     IF STR(WORD1$,LEN%-1,2)="TY" THEN TWO                             JM
     IF STR(WORD1$,LEN%-3,4)="YARD" THEN MENT                          JM
     IF STR(WORD1$,LEN%-3,4)="MENT" THEN MENT                          JM
     IF STR(WORD1$,LEN%-4,5)="MENTS" THEN MENTS                        JM
     IF STR(WORD1$,LEN%,1)="D" OR STR(WORD1$,LEN%,1)="S" THEN EDES JM
     IF STR(WORD1$,LEN%,1)="E" THEN FINALE                             JM
     GOTO VOWEL                                                        JM
                                                                       JM
QUE:  M%=M%-3 /* STRIP "QUE" OR "GUE" FROM END (NO SYLLABLES!) */  JM
      GOTO VOWEL                                                       JM
                                                                       JM
AREA: IF STR(WORD1$,LEN%,1)<>"S" THEN M%=M%-3                        ! JM
      ELSE M%=M%-4           /* HANDLES AUDIO, AREA, RADIO, ETC. */ JM
      R%=R%+2                                                          JM
      IF M%>1 THEN VOWEL                                               JM
      GOTO FINIS                                                       JM
                                                                       JM
   /* CHECK FOR CERTAIN CONSONANTS PRECEEDING "IAL" */                 JM
                                                                       JM
CHKD: Z1$=STR(WORD1$,LEN%-3,1)                                         JM
      IF Z1$="D" OR Z1$="N" OR Z1$="R" OR Z1$="V" THEN TWO             JM
      GOTO THREE                                                       JM
                                                                       JM
THES: R%=R%+1                   /* ADD 1 TO SYLLABLE COUNT */          JM
      K%=6                                                             JM
      IF M%<K% THEN FINIS                                              JM
      GOTO VOWEL                                                       JM
                                                                       JM
TWO:  R%=R%+1                         /* ADD 1 TO SYLLABLE COUNT */ JM
      M%=M%-2                /* DON'T LOOK AT THE LAST 2 LETTERS */ JM
      IF M%>1 THEN VOWEL                                               JM
      GOTO FINIS                                                       JM
                                                                       JM
THREE:  R%=R%+1                       /* ADD 1 TO SYLLABLE COUNT */ JM
      M%=M%-3                /* DON'T LOOK AT THE LAST 3 LETTERS */ JM
      IF M%>1 THEN VOWEL                                               JM
      GOTO FINIS                                                       JM
                                                                       JM
NING: IF STR(WORD1$,LEN%-5,3) = "ION" THEN THREE                       JM
MENT: R%=R%+1                         /* ADD 1 TO SYLLABLE COUNT */ JM
      M%=M%-4                /* DON'T LOOK AT THE LAST 4 LETTERS */ JM
      IF M%>1 THEN VOWEL                                               JM
      GOTO FINIS                                                       JM
                                                                       JM
                                                                       JM
MENTS:  R%=R%+1                       /* ADD 1 TO SYLLABLE COUNT */ JM
        M%=M%-5              /* DON'T LOOK AT THE LAST 5 LETTERS */ JM
        IF M%>1 THEN VOWEL                                             JM
        GOTO FINIS                                                     JM
                                                                       JM
   /*  CHECK FOR ED OR ES    */                                        JM
                                                                       JM
EDES:IF STR(WORD1$,LEN%-1,1)<>"E" AND STR(WORD1$,LEN%-1,1)<>HEX(2! JM
7) THEN VOWEL                                                          JM
     IF STR(WORD1$,LEN%-2,3)="TED" OR STR(WORD1$,LEN%-2,3)="DED" ! JM
     OR STR(WORD1$,LEN%-2,3)="CES" THEN R%=R%+1  /*ADD A SYL.! */  JM
```

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015640      IF STR(WORD1$,LEN%-2,3)="SES" THEN R%=R%+1  /* ADD A SYL.! */ JM
015650      IF M%<4 OR R%>0 THEN SKEP  /* CHECK FOR COMBOS BEFORE 'ES' */ JM
015660      IF STR(WORD1$,M%-1,2)<>"ES" THEN SKEP         /* DITTO */     JM
015670      Z$=STR(WORD1$,M%-3,2)      /* SEE IF COMBOS. PRECEED "ES" */  JM
015680      A1%=POS(Z$="A")                                               JM
015690      A2%=POS(Z$="I")                                               JM
015700      A3%=POS(Z$="U")                                               JM
015710      A4%=POS(Z$="O")                                               JM
015720      A7%=A1%+A2%+A3%+A4%                                           JM
015730      IF A7%<>0  THEN SKEP          /* VOWEL - NO MORE SYLLABLES */ JM
015740      GOTO VOWEL                   /* A CONS. - ADD A SYLLABLE */   JM
015750 SKEP:IF STR(WORD1$,M%-1,2)<>"ED" THEN SKEP1        /* DITTO */     JM
015760      IF M%<5 OR R%>0 THEN SKEP1 /* CHECK FOR 3 CONS. BEFORE 'ED'*/ JM
015770      Z2$=STR(WORD1$,M%-4,3)      /* SEE IF 3 CONS. PRECEED "ED" */ JM
015780      A1%=POS(Z2$="A")                                              JM
015790      A2%=POS(Z2$="E")                                              JM
015800      A3%=POS(Z2$="I")                                              JM
015810      A4%=POS(Z2$="O")                                              JM
015820      A5%=POS(Z2$="U")                                              JM
015830      A6%=POS(Z2$="Y")                                              JM
015840      A7%=A1%+A2%+A3%+A4%+A5%+A6%                                   JM
015850      IF A7%<>0  THEN SKEP1         /* VOWEL - NO MORE SYLLABLES */ JM
015860      R% = R%+1                      /* A CONS. - ADD A SYLLABLE */ JM
015870 SKEP1: M% = M%-2                                                   JM
015880      IF M%>1 THEN VOWEL                                            JM
015890      GOTO FINIS                                                    JM
015900                                                                    JM
015910    /* CHECK FOR FINAL E, NOT LE   */                               JM
015920                                                                    JM
015930 FINALE: IF STR(WORD1$,LEN%-1,1) = "L" THEN VOWEL                   JM
015940      M% = M% -1                                                    JM
015950      IF M%>1 THEN VOWEL                                            JM
015960      GOTO FINIS                                                    JM
015970                                                                    JM
015980    /* CHECK FOR TRAILING 'Y'  */                                   JM
015990                                                                    JM
016000 TRAILY: IF STR(WORD1$,K%,1)="Y" THEN CNTSYL                        JM
016010                                                                    JM
016020    /* CHECK FOR VOWEL  */                                          JM
016030                                                                    JM
016040 VOWEL:IF STR(WORD1$,K%,1)="A" OR STR(WORD1$,K%,1)="U" THEN ONEXT   JM
016050         IF STR(WORD1$,K%,1)="E" THEN INEXT                         JM
016060         IF STR(WORD1$,K%,1)="I" THEN U_ION                         JM
016070         IF STR(WORD1$,K%,1)="O" THEN EORA                          JM
016080         GOTO GETNXT                                                JM
016090                                                                    JM
016100    /* CHECK FOR O NEXT  */                                         JM
016110                                                                    JM
016120 ONEXT: IF K%=M% THEN SKIPV                                         JM
016130        IF STR(WORD1$,K%+1,1) = "O" THEN CNTSYL                     JM
016140        IF STR(WORD1$,K%+1,1) = "A" THEN CHKUA                      JM
016150        GOTO SKIPV                                                  JM
016160                                                                    JM
016170    /* CHECK FOR "UA" WITH A "G" OR "Q" PRECEEDING */               JM
016180                                                                    JM
016190 CHKUA: IF STR(WORD1$,K%,2)<>"UA"  OR K%<2  THEN CNTSYL             JM
016200        IF STR(WORD1$,K%-1,1)="G" OR STR(WORD1$,K%-1,1)="Q" THEN  : JM
```

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016210        SKIPV                                                       JM
016220        GOTO CNTSYL                                                 JM
016230                                                                    JM
016240    /* CHECK FOR O NEXT  */                                         JM
016250                                                                    JM
016260 ONEX:  IF K%=M% THEN SKIPV                                         JM
016270        IF STR(WORD1$,K%+1,1) = "O" THEN CNTSYL                     JM
016280        GOTO SKIPV                                                  JM
016290                                                                    JM
016300    /* CHECK FOR I NEXT  */                                         JM
016310                                                                    JM
016320 INEXT: IF K%=M% THEN CHKCONS      /* CHECK FOR PRECEEDING CONS. */ JM
016330        IF K%=2 AND M%>5 THEN DEAL   /* SEE IF RE OR DE IN FRONT */ JM
016340 GETBAK:IF STR(WORD1$,K%+1,1) ="I" THEN SKIPV          /* CNTSYL */ JM
016350        GOTO ONEX                                                   JM
016360                                                                    JM
016370 /* CODE TO DEAL WITH LEADING RE & DE  */                           JM
016380                                                                    JM
016390 DEAL: IF STR(WORD1$,1,1)<>"D" AND STR(WORD1$,1,1)<>"R" THEN GETBAK JM
016400       Z1$=STR(WORD1$,K%+1,1)                                       JM
016410       A1%=POS(Z1$="A")                                             JM
016420       A2%=POS(Z1$="E")                                             JM
016430       A3%=POS(Z1$="I")                                             JM
016440       A4%=POS(Z1$="O")                                             JM
016450       A5%=POS(Z1$="U")                                             JM
016460       A7%=A1%+A2%+A3%+A4%+A5%                                      JM
016470       IF A7%=0  THEN GETBAK           /* NO VOWEL - NOT 2 SYL.! */ JM
016480       N%=N%+1                                 /* ADD A SYLLABLE */ JM
016490       K%=K%+1               /* INCREMENT PAST "RE", "DE", ETC.  */ JM
016500       GOTO VOWEL                                /* TRY AGAIN */    JM
016510                                                                    JM
016520    /* CHECK FOR U/ION  */                                          JM
016530                                                                    JM
016540 U_ION: IF K%=M% THEN SKIPV                                         JM
016550        IF STR(WORD1$,K%+1,1)="U" THEN CNTSYL                       JM
016560        IF K%+2 > M% THEN ONEXT                                     JM
016570        IF STR(WORD1$,K%,2)="IA" THEN IA                            JM
016580 BACK:  IF STR(WORD1$,K%+1,1)<> "O" THEN SKIPV                      JM
016590        IF STR(WORD1$,K%+2,1)<> "N" THEN CNTSYL                     JM
016600        GOTO SKIPV                                                  JM
016610                                                                    JM
016620    /* CHECK FOR E OR A  */                                         JM
016630                                                                    JM
016640 EORA:  IF K% = M% THEN SKIPV                                       JM
016650        IF STR(WORD1$,K%+1,1) ="E" THEN CNTSYL                      JM
016660        GOTO SKIPV                                                  JM
016670                                                                    JM
016680    /* GET NEXT CHARACTER  */                                       JM
016690                                                                    JM
016700 GETNXT:  K% = K%+1                                                 JM
016710          IF K%>M% THEN FINIS                                       JM
016720          GOTO TRAILY                                               JM
016730                                                                    JM
016740    /* COUNT SYLLABLES  */                                          JM
016750                                                                    JM
016760 CNTSYL: N% = N% + 1                                                JM
016770         GOTO GETNXT                                                JM
```

```
                                                                    JM
   /* SKIP A VOWEL  */                                              JM
                                                                    JM
SKIPV: K%=K%+1                                                      JM
       GOTO CNTSYL                                                  JM
                                                                    JM
IA:       IF K%<2 THEN BACK                  /* NO NEED TO CHECK */ JM
          IF STR(WORD1$,K%-1,1)="D" THEN CNTSYL                     JM
          IF STR(WORD1$,K%-1,1)="C" THEN CNTSYL                     JM
          IF STR(WORD1$,K%-1,1)="R" THEN CNTSYL                     JM
          IF STR(WORD1$,K%-1,1)="V" THEN CNTSYL                     JM
          IF K%<3 THEN BACK                  /* NO NEED TO CHECK */ JM
          Z$=STR(WORD1$,K%-2,2)  /* SEE IF 2 CONS. PRECEED "IA" */  JM
          A1%=POS(Z$="A")                                           JM
          A2%=POS(Z$="E")                                           JM
          A3%=POS(Z$="I")                                           JM
          A4%=POS(Z$="O")                                           JM
          A5%=POS(Z$="U")                                           JM
          A6%=POS(Z$="Y")                                           JM
          A7%=A1%+A2%+A3%+A4%+A5%+A6%                               JM
          IF A7%<>0  THEN BACK      /* VOWEL - NO MORE SYLLABLES */ JM
          GOTO CNTSYL              /* 2 CONS. - ADD A SYLLABLE */   JM
                                                                    JM
CHKCONS:  IF K%<3 THEN FINIS                 /* NO NEED TO CHECK */ JM
          Z$=STR(WORD1$,K%-2,2)   /* SEE IF 2 CONS. PRECEED "E" */  JM
          A1%=POS(Z$="A")                                           JM
          A2%=POS(Z$="E")                                           JM
          A3%=POS(Z$="I")                                           JM
          A4%=POS(Z$="O")                                           JM
          A5%=POS(Z$="U")                                           JM
          A6%=POS(Z$="Y")                                           JM
          A7%=A1%+A2%+A3%+A4%+A5%+A6%                               JM
          IF A7%<>0  THEN FINIS    /* VOWEL - NO MORE SYLLABLES */ JM
          N%=N%+1                    /* 2 CONS. - ADD A SYLLABLE */ JM
                                                                    JM
   /* EVEN A NULL WORD GETS 1 SYLLABLE  */                          JM
                                                                    JM
FINIS: IF N%>0 OR K%<1 THEN CURVE                                   JM
       Z3$=STR(WORD1$,1,K%)                                         JM
       A1%=POS(Z3$="A")                                             JM
       A2%=POS(Z3$="E")                                             JM
       A3%=POS(Z3$="I")                                             JM
       A4%=POS(Z3$="O")                                             JM
       A5%=POS(Z3$="U")                                             JM
       A6%=POS(Z3$="Y")                                             JM
       A7%=A1%+A2%+A3%+A4%+A5%+A6%                                  JM
       IF A7%=0  THEN CURVE     /* VOWEL - NO MORE SYLLABLES */     JM
       N%=1                                                         JM
CURVE: TLC%=N%+R%                                                   JM
       TLC%=MAX(TLC%,1)                                             JM
       RETURN                         /* SYLLY SUBROUTINE RETURN */ JM
                                                                    JM
/***************************************************************/ JM
/*                                                               */ JM
/* THIS SUBROUTINE ADDS A WORD TO THE UNCOMMON WORD LIST.        */ JM
/*                                                               */ JM
/***************************************************************/ JM
```

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017350                                                                        JM
017360 ADD_UNCWL:                                                             JM
017370       UNCPT%=MIN(21,UNCPT%)                                            JM
017380       FOR V% = 1 TO UNCPT%-1                                           JM
017390       FOUND% = 0    /* RESET FOUND FLAG */                             JM
017400       FOR S% = 1 TO IDX%     /* LOOP TO FIND WORD IN ARRAY */          JM
017410            IF UNC$(V%) > UCW$(S%) THEN LOOP                            JM
017420            IF UNC$(V%) = UCW$(S%) THEN INCREM /* JUST INC. COUNT */ JM
017430                                                                        JM
017440          /* WORD SHOULD BE INSERTED IN THIS SPOT  */                   JM
017450                                                                        JM
017460            JJ%=IDX%+1                                                  JM
017470            FOR L%=JJ% TO S%+1 STEP -1                                  JM
017480                     UCW$(L%)=UCW$(L%-1)/* MOVE WORDS DOWN ONE SLOT */ JM
017490                     UCWCT%(L%)=UCWCT%(L%-1)      /* MOVE COUNT ALSO */ JM
017500            NEXT L%                                                     JM
017510            UCW$(S%)=UNC$(V%)        /* PLACE THE WORD IN THE ARRAY */ JM
017520            UCWCT%(S%)=1            /* PLACE THE COUNT IN THE ARRAY */ JM
017530            S%=IDX%                /* GETS US OUT OF THE MIDDLE LOOP */ JM
017540            IDX%=JJ%             /* INCREMENT THE INDEX TO THE ARRAY */ JM
017550            FOUND%=1                            /* SET THE FOUND FLAG */ JM
017560            GOTO LOOP                                                   JM
017570 INCREM:    UCWCT%(S%)=UCWCT%(S%)+1                                     JM
017580            FOUND%=1                                                    JM
017590            S%=IDX%                   /* GETS US OUT OF THE BIG LOOP */ JM
017600 LOOP: NEXT S%                                                          JM
017610        IF FOUND%=1 THEN RETO                                           JM
017620        IDX%=IDX%+1              /* INCREMENT THE INDEX TO THE ARRAY */ JM
017630        UCW$(IDX%)=UNC$(V%)                /* PUT THE WORD AT THE END */ JM
017640        UCWCT%(IDX%)=1                        /* SET THE COUNT TO ONE */ JM
017650 RETO: NEXT V%                                                          JM
017660        UNC$()=HEX(20)                      /* RESET BUFFER VARIABLES */ JM
017670        UNCPT%=1                                                        JM
017680 RETURN                              /* ADD_UNCWL SUBROUTINE RETURN */ JM
017690                                                                        JM
017700 /*************************************************************/ JM
017710 /*                                                           */ JM
017720 /* THIS SUBROUTINE CHECKS FOR POSSIBLE PHRASES.              */ JM
017730 /*                                                           */ JM
017740 /*************************************************************/ JM
017760 CHKPHSFL:                                                              JM
017780          I%=1                                                          JM
017790          K%=0                                                          JM
017800          IF CW$="P" THEN ADD_NWD                /* PARTIAL PHRASE */ JM
017810          IF CW$="X" THEN RD                     /* RETRY */            JM
017820       IF SENTPOS$="E" OR CLSPOS$="E" THEN CHKNWDS /*NO POSS. PH. */ JM
017840          IP%=1                                                         JM
017850          WORDP$=ALL(HEX(20))  /* BLANK OUT OUR PHRASE BUFFER */        JM
017860 SAVPH: STR(WORDP$,IP%,LEN%)=WORD1$                                     JM
017870          IP%=IP%+LEN%                                                  JM
017880 RD:      READ #4, KEY>= STR(WORDP$,1,IP%),PREC$,EOD GOTO CHKNUM2       JM
017890          IF STR(WORDP$,1,IP%) <> STR(PREC$,1,IP%) THEN CHKNUM2         JM
017900                                                                        JM
017910          /* WE MUST HAVE A POSSIBLE PARTIAL PHRASE  */                 JM
017920                                                                        JM
017930          CW$="P"                                                       JM
017940          GOTO PHRS_RET                                                 JM
```

```
017950 ADD_NWD:                                                            JM
017960         IF (IP%+LEN%)>23 THEN SWTCH                                  JM
017970         STR(WORDP$,IP%+1,LEN%)=WORD1$                                JM
017980         IP%=IP%+LEN%+1                                               JM
017990         READ #4, KEY>= STR(WORDP$,1,IP%),PREC$,EOD GOTO CHOP         JM
018000                                                                      JM
018010              /* LET'S SEE IF THE FIRST PART MATCHES  */              JM
018020                                                                      JM
018030         IF STR(WORDP$,1,IP%)<> STR(PREC$,1,IP%) THEN CHOP            JM
018040                                                                      JM
018050              /* LET'S SEE IF THE WHOLE PHRASE MATCHES */             JM
018060                                                                      JM
018070         IF STR(WORDP$,1,24)=STR(PREC$,1,24) THEN SUCCESS             JM
018080                                                                      JM
018090                     /* DO WE KEEP LOOKING? */                        JM
018100                                                                      JM
018110         IF IW% = 5 THEN CHOP                                         JM
018120         IF SENTPOS$ = "E" OR CLSPOS$="E" THEN CHKNWDS                JM
018130         GOTO PHRS_RET                                                JM
018140 SUCCESS:                                                             JM
018150         CW$="Y"      /* WE FOUND ONE - SET FLAG  */                  JM
018160         GOTO PHRS_RET                                                JM
018170                                                                      JM
018180 CHKNWDS:                                                             JM
018190         IF IW% < 3 THEN FAIL                                         JM
018200         GOTO SWTCH                                                   JM
018210                                                                      JM
018220 CHKNUM2:                                                             JM
018230         IF IW% = 1 THEN FAIL  /* IF HERE, NO MATCH */                JM
018240         GOTO CHOP                                                    JM
018250                                                                      JM
018260 SWTCH: K% = -1                                                       JM
018270                                                                      JM
018280 CHOP:  CW$ = "X"   /* CHOP OFF LEADING WORD - X MEANS RETRY */       JM
018290         I% = 1                                                       JM
018300         D%=3                      ' /* PRINT WORDS AND FLAGS ONLY */ JM
018310         GOSUB PRT_WDS                                                JM
018320         IF I% = 0 THEN PHRS_RET                                      JM
018330         J%=POS(STR(WORDP$,1,24)=" ") /* FIND THE FIRST BLANK  */     JM
018340         WORDP$=STR(WORDP$,J%+1)       /* CHOP OFF 1ST WORD    */     JM
018350         IP%=IP%-J% /*:IW%=IW%-1 */   /* ADJUST BUFFER PTR.    */     JM
018360         IF K%=0 THEN RD                                              JM
018370         GOTO SAVPH                                                   JM
018380 FAIL:  CW$="N"                        /* NO PHRASE - SET FLAG  */    JM
018390 PHRS_RET:                                                            JM
018400         RETURN                 /* CHKPHSFL SUBROUTINE RETURN */      JM
018410                                                                      JM
018420 /*****************************************************************/ JM
018430 /*                                                               */ JM
018440 /* THIS SUBROUTINE SELECTS A LINE TO PRINT.                      */ JM
018450 /*                                                               */ JM
018460 /*****************************************************************/ JM
018470                                                                      JM
018480 SELOPT:                                                              JM
018490                                                                      JM
018500 D%=1         /* ASSUME SUCCESS */                                    JM
018510 /* SELECT THE WAY TO GO */                                           JM
```

```
018520                                                                   JM
018530      IF CW$="Y" THEN FORTY  /* PHRASE */                          JM
018540      IF WSL$="Y" THEN THIRTY8      /* WORD SUBSTITUTES */         JM
018550                                                                   JM
018560 /* IF NONE OF THE ABOVE, PRINT WORDS */                           JM
018570                                                                   JM
018580      GOSUB PRNT_WDS                                               JM
018590      GOTO OUTS                                                    JM
018600                                                                   JM
018610  /* SET UP DATA SO WORD SUBS. CAN BE FETCHED USING PHRASE CODE */  JM
018620                                                                   JM
018630 THIRTY8: IF PHCT%=1 THEN THIRTY9      /* DON'T FORGET ANY WORDS */ JM
018640                                                                   JM
018650    /* INCLUDE WORDS SAVED FOR POSSIBLE PHRASE BEFORE */            JM
018660         /* IS THERE ROOM ON THE OUTPUT LINE? */                   JM
018670                                                                   JM
018680         FOR I%=1 TO PHCT%-1                                       JM
018690       IF IO% + SAVPHL%(I%) + SAVSUBL%(I%) > LL% THEN GOSUB PRTLNE JM
018700         IF PFLAG%=0 THEN OUTS                                     JM
018710         IF SAVSUBL%(I%)=0 THEN                                  ! JM
018720        STR(OLINE$,IO%,SAVPHL%(I%))=STR(SAVPH$(I%),1,SAVPHL%(I%))! JM
018730         ELSE STR(OLINE$,IO%,SAVPHL%(I%)+SAVSUBL%(I%)) = "<" &   ! JM
018740         STR(SAVPH$(I%),1,SAVPHL%(I%)) & ">" &                   ! JM
018750         STR(SAVSUB$(I%),1,SAVSUBL%(I%)-2)                         JM
018760         WC1%=WC1%+1                /* INCREMENT THE WORD COUNT */ JM
018770         WP1%=WP1%+1 /* INCREMENT THE WORDS PER PARAGRAPH COUNT */ JM
018780         SLC1%=SLC1%+SAVSYL%(I%)     /* INCREMENT SYLLABLE COUNT */ JM
018810         IO%=SAVPHL%(I%) + IO% + 1 + SAVSUBL%(I%)                  JM
018820         IF SAVSUBL%(I%)<>0 THEN SAVSUBL%(I%)=0                    JM
018830         NEXT I%                                                   JM
018840         PHCT% = 1                                                 JM
018850 THIRTY9: PREC$=ALL(HEX(20))     /* SET UP PREC$ WITH WORD SUBS. */ JM
018860         STR(PREC$,1,20)=STR(REC1$,1,20)                           JM
018870         STR(PREC$,25)=STR(REC1$,21,20)                            JM
018880         STR(PREC$,45)=STR(REC1$,41,15)                            JM
018890         WSL$="N"                               /* RESET THE FLAG */ JM
018900                                                                   JM
018910    /* PRINT A PHRASE AND SUBSTITUTES & SET DEFAULTS */             JM
018920                                                                   JM
018930 FORTY: IF CW$="Y" THEN MAT SAVSUBL% = ZER   /* CLEAR WORD SUBS. */ JM
018940       J%=0                                                        JM
018950       K1%=0                                                       JM
018960       K2%=0                                                       JM
018970       K3%=1                                                       JM
018980                                                                   JM
018990      /* COMPUTE THE LENGTH OF PHRASE AND SUBSTITUTES */            JM
019000      /* FIRST, GET THE LENGTH OF PHRASE */                        JM
019010                                                                   JM
019020      IF PHCT%=1 THEN SKPTHS                                       JM
019030      FOR I%=1 TO PHCT% -1                                         JM
019040                J%=J%+SAVPHL%(I%)+1            /* INCLUDE SPACES */ JM
019050      NEXT I%                                                      JM
019060 SKPTHS: IF STR(PREC$,25,1)=" " THEN BLANK$="Y"       /*NO SUBS. */ JM
019070        IF BLANK$="Y" THEN J%=J%+WLEN% /* DON'T FLAG THE PHRASE */! JM
019080        ELSE J%=J%+2+WLEN%       /* INCLUDES LAST WORD AND <...> */ JM
019090                                                                   JM
019100      /* CHECK ON NUMBER OF SUBSTITUTES TO PRINT   */              JM
```

```
019110                                                                    JM
019120      IF NUM_SUB$="0" OR STR(PREC$,25,1)=" " THEN FORTY2  /*NONE */ JM
019130                                                                    JM
019140       /* GET LENGTH OF SUBSTITUTE #1  */                           JM
019150                                                                    JM
019160      K1%=-1                                                        JM
019170      K1%=POS(STR(PREC$,25,20)=" ")                                 JM
019180 OVA: IF STR(PREC$,K1%+25,1)=" " OR K1%=20 THEN COUNT               JM
019190      K4%=POS(STR(PREC$,K1%+25,20-K1%)=" ")      /* GET THE REST */ JM
019200      IF K4%=0 THEN K1%=20        /*THE SUBSTITUTE TOOK 20 SPACES*/ JM
019210      K1%=K1%+K4%                                                   JM
019220      GOTO OVA                                                      JM
019230 COUNT: K1%=MIN(20,K1%)                                             JM
019240      J%=J%+K1%+5                    /* INCLUDES "<* "...."*>" */   JM
019250                                                                    JM
019260      /* ANOTHER SUBSTITUTE ? */                                    JM
019270                                                                    JM
019280       IF STR(PREC$,45,1)=" " THEN FORTY2                           JM
019290      K2%=-1                                                        JM
019300      K2%=POS(STR(PREC$,45,20)=" ")                                 JM
019310 OVA1: IF STR(PREC$,K2%+45,1)=" " OR K2%=20  THEN COUNT1            JM
019320      K4%=POS(STR(PREC$,K2%+45,20-K2%)=" ")      /* GET THE REST */ JM
019330      IF K4%=0 THEN K2%=20      /* THE SUBSTITUTE TOOK 20 SPACES */ JM
019340      K2%=K2%+K4%                                                   JM
019350      GOTO OVA1                                                     JM
019360 COUNT1: K2%=MIN(20,K2%)                                            JM
019380                                                                    JM
019390       J%=J%+K2%+3         /* INCLUDES "/" & TWO SPACES */          JM
019400                                                                    JM
019410       /* PRINT THE PHRASE */                                       JM
019420                                                                    JM
019430 FORTY2: PFLAG% = K3%                                               JM
019440         IF IO% + J% > LL% THEN GOSUB PRTLNE                        JM
019450         IF PFLAG%=0 THEN OUTS                                      JM
019460         IF BLANK$="Y" THEN MISS                                    JM
019470         STR(OLINE$,IO%,1)= "<"                                     JM
019480         IO%=IO%+1                                                  JM
019490                                                                    JM
019500         /* INSERT THE PHRASE */                                    JM
019510                                                                    JM
019520 MISS:SAVPH$(PHCT%)=WORDS$                                          JM
019530      SAVPHL%(PHCT%)=WLEN%                                          JM
019540      SAVSYL%(PHCT%)=TLC%                                           JM
019550      FOR I%=1 TO PHCT%                                             JM
019560          STR(OLINE$,IO%,SAVPHL%(I%))=STR(SAVPH$(I%),1,SAVPHL%(I%)) JM
019570         WC1%=WC1%+1                      /* INCREMENT THE WORD COUNT */ JM
019580         WP1%=WP1%+1      /* INCREMENT THE WORDS PER PAR. COUNT */  JM
019590         SLC1%=SLC1%+SAVSYL%(I%)/* INCREMENT THE SYLLABLE COUNT */  JM
019620          IO%=IO%+SAVPHL%(I%)+1          /* INCLUDE SPACES */       JM
019630      NEXT I%                                                       JM
019640         IF BLANK$<>"Y" THEN IO%=IO%-1   /* EXCEPT THE LAST ONE */  JM
019650         PHCT%=1                    /* RESET PARTIAL PHRASE COUNT */ JM
019660                                                                    JM
019670              /* INSERT SUBSTITUTES */                              JM
019680                                                                    JM
019690         IF BLANK$="Y" THEN FIFTY                                   JM
019700         STR(OLINE$,IO%,1)=">"                                      JM
```

```
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019710          IO%=IO%+1                                                     JM
019720          IF NUM_SUB$="0" THEN FIFTY            /* NO SUBSTITUTES */ JM
019730          STR(OLINE$,IO%,2)="<*"                                        JM
019740          IO%=IO%+3                            /* INCLUDE A SPACE */ JM
019750          IF K1%=0 THEN FORTY4   /* NO SUBST. IN PHRASE SUB. LIST */ JM
019760          STR(OLINE$,IO%,K1%)=STR(PREC$,25,K1%)                         JM
019770          IO%=IO%+K1%                                                   JM
019780          IF K2%=0 THEN FORTY4                                          JM
019790          STR(OLINE$,IO%,1)="/"                                         JM
019800          IO%=IO%+2          /* INCLUDE A SPACE */                      JM
019810          STR(OLINE$,IO%,K2%)=STR(PREC$,45,K2%)                         JM
019820          IO%=IO%+K2%                                                   JM
019830                                                                        JM
019840            /* FINISH THE ENTRY */                                      JM
019850                                                                        JM
019860 FORTY4: STR(OLINE$,IO%,2)="*>"                                         JM
019870          IO%=IO%+2                                                     JM
019880                                                                        JM
019890      /* NOW PRINT ANY FLAGS FOR THE WORDS IN THE PHRASE */             JM
019900                                                                        JM
019910 FIFTY:   BLANK$="N"                                                    JM
019920          D%=2                                                          JM
019930          GOSUB PRNT_WDS                                                JM
019940                                                                        JM
019950 OUTS:   RETURN                           /* SELOPT SUB. RETURN */ JM
019960                                                                        JM
019970 /************************************************************/ JM
019980 /*                                                          */ JM
019990 /*  THIS SUBROUTINE PRINTS A LINE TO THE PRINT FILE.         */ JM
020000 /*                                                          */ JM
020010 /************************************************************/ JM
020020                                                                        JM
020030 PRTLNE:                                                                JM
020040                                                                        JM
020050        IF E_O_F$="E" THEN FINISH                                       JM
020060                                                                        JM
020070        IF LC%=0 AND PC%=1 THEN GOSUB TOP1                              JM
020080        C$ = HEX(0001)                                                  JM
020090        WRITE #12, USING Y, C$                                          JM
020100        WRITE #12, USING X, C$, OLINE$                                  JM
020110        OLINE$=ALL(HEX(20))                                             JM
020120        IO% = 1                                                         JM
020130        LC% = LC% + 2                                                   JM
020140        IF LC%<=LP% THEN FINAL            /* NO NEED FOR RGL YET */ JM
020150        LC%=0                                  /* RESET LINE COUNT */ JM
020160        IF PC%<=GP% THEN TEN  /* IS IT TIME FOR INTERIM ANALYSIS? */ JM
020170        GP% = GP% + BP%         /* RESET GP% FOR NEXT BREAK POINT */ JM
020180        IF INT_ANL$<>"Y" THEN CHKUCW                                    JM
020190        GOSUB PRTRGL                       /* PRINT INTERIM ANALYSIS */ JM
020200        GOTO CHKUCW                                                     JM
020210 FINISH: IF RGL$ <> "Y" THEN CHKUCW       /* SHOULD WE PRINT RGL? */ JM
020220        GOSUB PRTRGL                                                    JM
020230 CHKUCW:                                                                JM
020240        IF IDX% = 0 OR UNCOM$<>"Y" THEN TEN  /* NO UNCOMMON WORDS */ JM
020250        GOSUB UWL                     /* PRINT UNCOMMON WORD LIST */ JM
020260        IF E_O_F$="E" THEN FINAL                                        JM
020270 TEN:  GOSUB TOP1                               /* PRINT TOP OF PAGE */ JM
```

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020280       GOTO FINAL                                                 JM
020290 TOP1: GOSUB TOP                                                  JM
020300       WRITE #12,USING ZZZ,C$,PC%                                 JM
020310       PC%=PC%+1                                                  JM
020320       RETURN                                                     JM
020330 X:%## ##########################################################! JM
020340 ##################                                               JM
020350 Y:%##                                                            JM
020360 ZZZ:%##                                                        ! JM
020370    PAGE ###                                                      JM
020380 FINAL:                                                           JM
020390        RETURN                             /* PRTLNE SUB. RETURN */ JM
020395                                                                  JM
020420 /*************************************************************/ JM
020430 /*                                                           */ JM
020440 /*  THIS SUBROUTINE PRINTS THE READING GRADE LEVEL.          */ JM
020450 /*                                                           */ JM
020460 /*************************************************************/ JM
020470                                                                  JM
020480 PRTRGL:                                                          JM
020490       IQ%=1                  /* SUCCESS FLAG */                  JM
020500       WC%=MAX(WC%,1)        /* AT LEAST ONE WORD */              JM
020510       SC%=MAX(SC%,1)        /* AT LEAST ONE SENTENCE */          JM
020520                                                                  JM
020530            /* KEEP OVERALL TOTALS  */                            JM
020540                                                                  JM
020560       XWC%=XWC%+WC%         /* WORD COUNT TOTAL */               JM
020570       XSC%=XSC%+SC%         /* SENTENCE COUNT TOTAL */           JM
020580       XSLC%=XSLC%+SLC%      /* SYLLABLE COUNT TOTAL */           JM
020590       XUC%=XUC%+UW%         /* UNCOMMON WORD TOTAL */            JM
020600       XLS%=XLS%+LS%         /* LONG SENTENCE TOTAL */            JM
020610                                                                  JM
020620       SLC = SLC% : WC = WC%   :SC = SC%                          JM
020630       NSW=SLC/WC            /* NUMBER SYLLABLES PER WORD */      JM
020640       NWS=WC/SC             /* NUMBER WORDS PER SENTENCE */      JM
020650                                                                  JM
020660       RGL=(NWS*.39)+(NSW*11.8)-15.59  /* COMPUTE READING LEVEL */ JM
020670       F1=UW%                /* PERCENT OF UNCOMMON WORDS */      JM
020680       F2=LS%                /* PERCENT OF LONG SENTENCES */      JM
020690       IF F1>0 THEN F1=F1/WC%*100                                 JM
020700       IF F2>0 THEN F2=F2/SC%*100                                 JM
020710                                                                  JM
020720      /* LET'S COMPUTE HEADER INFORMATION */                      JM
020730                                                                  JM
020740   IF LAST$="Y" THEN BUFFER$="FINAL ANALYSIS"                     JM
020750   IF LAST$="Y" THEN JAPAN                                        JM
020760   CONVERT  PC%-1   TO ENDY$,PIC(###)                             JM
020770   BUFFER$="INTERIM ANALYSIS (PAGES " & BEGINY$ & " -" & ENDY$&")"  JM
020790                                                                  JM
020800       /* NOW LET'S WRITE THIS INFORMATION OUT  */                JM
020810                                                                  JM
020820 JAPAN: GOSUB TOP                                                 JM
020830       WRITE #12, USING H, C$                    /* SKIP ONE LINE */ JM
020840       IF LAST$="Y" THEN WRITE #12,USING RQ,C$,BUFFER$          ! JM
020850       ELSE WRITE #12, USING RG, C$, BUFFER$                      JM
020860       WRITE #12, USING H, C$                    /* SKIP ONE LINE */ JM
020870       WRITE #12, USING RR, C$    /* PRINT "READIBILITY RESULTS" */ JM
```

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020880       WRITE #12, USING H, C$                   /* SKIP ONE LINE */ JM
020890       WRITE #12, USING H2, C$                  /* PRINT HEADING */ JM
020900       WRITE #12, USING H3, C$, SC%, WC%, SLC%     /* PRINT DATA */ JM
020910       WRITE #12, USING H, C$                   /* SKIP ONE LINE */ JM
020920       WRITE #12, USING H4, C$/* AVG. WORD/SENT. & SYL/WORD HEAD.*/ JM
020930       WRITE #12, USING H5, C$, NWS, NSW           /* PRINT DATA */ JM
020940       WRITE #12, USING H, C$                   /* SKIP ONE LINE */ JM
020950       IF UNCOM$<>"Y" OR LNG_SEN$<>"Y" THEN JUMPY                   JM
020960       WRITE #12, USING H6, C$ /* % OF UW'S & % LONG SENT. HEAD. */ JM
020970       IF F2=100 THEN WRITE #12, USING H9, C$, F1, F2             ! JM
020980       ELSE WRITE #12, USING H7, C$, F1, F2  /* % OF UW'S & % LS */ JM
020990       GOTO JUMP2                                                   JM
021000 JUMPY: IF UNCOM$<>"Y" THEN JUMP1                                   JM
021010       WRITE #12, USING A1, C$         /* % OF UW'S HEADING ONLY */ JM
021020       WRITE #12, USING A2, C$, F1                  /* % OF UW'S */ JM
021030       GOTO JUMP2                                                   JM
021040 JUMP1: IF LNG_SEN$<>"Y" THEN JUMP3                                 JM
021050       WRITE #12, USING B1, C$        /* % LONG SENT. HEAD. ONLY */ JM
021060       IF F2=100 THEN WRITE #12, USING A3, C$, F2                 ! JM
021070       ELSE WRITE #12, USING A2, C$, F2                  /* % LS */ JM
021080 JUMP2:WRITE #12, USING H, C$                   /* SKIP ONE LINE */ JM
021090 JUMP3:WRITE #12, USING H8, C$,RGL                  /* PRINT RGL */ JM
021100       GOTO JAKE                                                    JM
021110 A1:%## Percent of Uncommon Words                                   JM
021120 B1:%## Percent of Long Sentences                                   JM
021130 A2:%##           ##.##                                             JM
021140 A3:%##          ###.##                                             JM
021150 RR:%## ------------------      READABILITY RESULTS      ---------! JM
021160 ---------                                                          JM
021170 RQ:%##                           ################################  JM
021180 RG:%##                  #################################          JM
021190 H:%##                                                              JM
021200 H2:%## Number of Sentences       Number of Words       Number of ! JM
021210 Syllables                                                          JM
021220 H3:%##      ######                   ######                  ####! JM
021230 ##                                                                 JM
021240 H4:%## Avg. Number of Words per Sentence     Avg. Number of Sylla! JM
021250 bles per Word                                                      JM
021260 H5:%##             ####.##                                   ####! JM
021270 .##                                                                JM
021280 H6:%## Percent of Uncommon Words             Percent of Long Sent! JM
021290 ences                                                              JM
021300 H7:%##           ##.##                                 ##.##       JM
021310 H9:%##           ##.##                                ###.##       JM
021320 H8:%## GRADE LEVEL (Based on DoD Readability Standard) = ##.##     JM
021330 JAKE:    /* CLEAR ALL VARIABLES FOR NEXT PART OF ANALYSIS */       JM
021340                                                                    JM
021350       CONVERT PC% TO BEGINY$,PIC(###)    /* READY FOR NEXT TIME */ JM
021360       UW%,WC%,SC%,SLC%,LS% = 0                                     JM
021370       RETURN                              /* PRTRGL SUB. RETURN */ JM
021380                                                                    JM
021390 /****************************************************************/ JM
021400 /*                                                              */ JM
021410 /*  SUBROUTINE TOP PRINTS A CENTERED TITLE AT THE TOP OF THE    */ JM
021420 /*   PAGE.                                                      */ JM
021430 /*                                                              */ JM
021440 /****************************************************************/ JM
```

```
021450                                                                     JM
021460 TOP:                                                                JM
021470       C$=HEX(8001)                                                  JM
021480       WRITE #12, USING H, C$   /* GET TO TOP OF FORM */             JM
021490       LC%=0                                                         JM
021500       C$=HEX(0001)                                                  JM
021510       IF PAG_TITL$="  " THEN NERF                                   JM
021520       WRITE #12, USING X, C$, TITLBUF$                              JM
021560 NERF:RETURN                            /* SUBROUTINE TOP RETURN  */ JM
021570 /***************************************************************/ JM
021580 /*                                                              */ JM
021590 /*  THIS SUBROUTINE PRINTS THE UNCOMMON WORD LIST.              */ JM
021600 /*                                                              */ JM
021610 /***************************************************************/ JM
021620                                                                     JM
021630 UWL:                                                                JM
021640       IU%=1                                                         JM
021650       IF IDX%=0 THEN NINETY                    /* NO WORDS IN UCW$ */ JM
021660                                                                     JM
021670       /* SET UP FOR THE FIRST PAGE OF PRINTOUT */                   JM
021680                                                                     JM
021690       GOSUB TOP                                                     JM
021700       WRITE #12, USING H, C$                                        JM
021701 OVER: C$=HEX(0001)                                                  JM
021710       WRITE #12, USING HEAD, C$              /* PRINT UCW HEADING */ JM
021720       WRITE #12, USING HEAD1, C$ /* PRINT 'WORD','FREQ' HEADING */ JM
021730       J%=100                                 /* MAXIMUM PER PAGE */ JM
021740       IF IDX%<J% THEN J%=IDX%                       /* IF #    100 */ JM
021750       IDX%=IDX%-J%                   /* RESET INDEX COUNT FOR LATER */ JM
021760       K%=J%/2                          /* NUMBER OF WORDS PER COL. */ JM
021770       IF (J%>2*K%) THEN K%=K%+1           /* ODD NUMBER OF WORDS */ JM
021780       C$=HEX(0001)                                                  JM
021790       IF K%=1 THEN SKIPIT                                           JM
021800       FOR DL%=1 TO K%-1                                             JM
021810            WRITE #12, USING UCWFMT,C$,UCW$(DL%),UCWCT%(DL%),      ! JM
021820                    UCW$(K%+DL%),UCWCT%(K%+DL%)                      JM
021830       NEXT DL%                                                      JM
021840 SKIPIT:                                                             JM
021850       K%=J%/2  /* LET'S SEE WHAT WE SHOULD DO FOR THE LAST LINE */ JM
021860       IF (J%>2*K%) THEN WRITE #12, USING UCWFM1, C$, UCW$(K%+1), ! JM
021870                        UCWCT%(K%+1)                                ! JM
021880       ELSE WRITE #12, USING UCWFMT, C$, UCW$(K%), UCWCT%(K%),     ! JM
021890                        UCW$(J%),UCWCT%(J%)                          JM
021900       IF IDX%=0 THEN FINICH                                         JM
021901       FOR DL%=1% TO IDX%                                            JM
021902       UCW$(DL%)=UCW$(DL%+100%)                                      JM
021903       UCWCT%(DL%)=UCWCT%(DL%+100%)                                  JM
021904       NEXT DL%                                                      JM
021910       C$=HEX(8001)                                                  JM
021920       WRITE #12, USING H, C$                                        JM
021930       GOTO OVER                                                     JM
021940 UCWFMT:%## ####################  ##          ####################! JM
021950   ##                                                                JM
021960 UCWFM1:%## ####################  ##                                 JM
021970 HEAD:%## ------------------      UNCOMMON WORDS      ------------! JM
021980 ------                                                              JM
021990 HEAD1:%## WORD                    FREQ         WORD               ! JM
```

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022000 FREQ                                                             JM
022010 FI[illegible]CH: MAT UCWCT%= ZER                  /* ZERO OUT ALL COUNTS */ JM
022020         INIT(" ")UCW$()          /* BLANK OUT OLD UNCOMMON LIST */ JM
022030                                                                  JM
022040 NINETY:                                                          JM
022050  RETURN                              /* UWL SUBROUTINE RETURN */ JM
022060                                                                  JM
022070 /**************************************************************/ JM
022080 /*                                                            */ JM
022090 /*  THIS SUBROUTINE STRIPS PUNCTUATION FOR THE WORD WORD1$.    */ JM
022100 /*                                                            */ JM
022110 /**************************************************************/ JM
022120                                                                  JM
022130 SPUNK:                                                           JM
022140    BS$=SENTPOS$ : BC$=CLSPOS$ : BB$=" "                          JM
022150    FOUN%=0                         /* WE HAVEN'T FOUND ABBRE. YET */ JM
022160    I% = 1                            /* ASSUME SUCCESS FOR NOW */ JM
022170    INVLD$=" "                        /* CLEAR INVALID WORD FLAG */ JM
022180                                                                  JM
022200    IF SENTPOS$ = "E" THEN SENTPOS$ = "B"      /* START OF SENT. */ JM
022230    IF CLSPOS$ = "E" THEN CLSPOS$ = "B"   /* START OF NEW CLAUSE */ JM
022240                                                                  JM
022250 LEAD_PUNC:                      /* CHECK FOR LEADING PUNCTUATION */ JM
022260    IF LEN%=1 THEN SGLCHAR                       /* END OF WORD */ JM
022270    A$=STR(WORD1$,1,1)                                            JM
022280    IF (A$ < "0" ) OR (A$ > "9" AND A$ < "A") OR                 : JM
022290       (A$ > "Z" AND A$ < "a")                                   : JM
022300       THEN INVLCHR                                               JM
022310                                                                  JM
022320    IF A$ <= "z" THEN CHKTRLG                                     JM
022330                                                                  JM
022340 INVLCHR:                          /* INVALID LEADING CHARACTER */ JM
022350    IF A$ = "(" THEN NEG%(3) = 1               /* NEGATIVE SWITCH */ JM
022360    WORD1$ = STR(WORD1$,2)                                        JM
022370    LEN% = LEN% - 1                                               JM
022380  GOTO LEAD_PUNC                                                  JM
022390                                                                  JM
022400 CHKTRLG:                       /* CHECK FOR TRAILING PUNCTUATION */ JM
022410    IF LEN%=1 THEN SGLCHAR                       /* END OF WORD */ JM
022420    A$=STR(WORD1$,LEN%,1)                                         JM
022430    IF (A$ < "0" ) OR (A$ > "9" AND A$ < "A") OR                 : JM
022440       (A$ > "Z" AND A$ < "a")                                   : JM
022450       THEN INVTCHR                                               JM
022460                                                                  JM
022470    IF A$ <= "z" THEN CHKNWSENT                                   JM
022480                                                                  JM
022490 INVTCHR:                         /* INVALID TRAILING CHARACTER */ JM
022500    IF A$ = ")" THEN SETNEG                                       JM
022510    J% = POS(".;!?" = A$)                                         JM
022520    IF J%=0 THEN BAR                                              JM
022530    IF A$<>"." THEN ENDSENT                   /* CAN'T BE ABBRE. */ JM
022540    WORDQ$=STR(WORD1$,1,LEN%-1)         /* GET RID OF THE PERIOD */ JM
022550    TRAN( WORDQ$,                                                : JM
022560        "AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz" )  : JM
022570         REPLACING                                                JM
022580    IF ABBRE%=0 THEN ENDSENT                                      JM
022590    FOR QD%=1 TO ABBRE%                                           JM
```

```
022600    IF STR(WORDQ$,1,LEN%) > STR(ABBRE$(QD%),1,LEN%) THEN QD%=ABBRE% JM
022610    IF STR(WORDQ$,1,LEN%) <> STR(ABBRE$(QD%),1,LEN%) THEN DROP      JM
022620    IF LEN(ABBRE$(QD%))>LEN%+1 THEN DROP                            JM
022630    FOUN%=1                                                         JM
022640    QD%=ABBRE%                                                      JM
022650 DROP: NEXT QD%                                                     JM
022660    IF FOUN%=0 THEN ENDSENT                                         JM
022670 BAR:                                                               JM
022680    IF A$ = ":" OR A$ = "," THEN SETCLS                             JM
022690  GOTO RMV_CHR                                                      JM
022700                                                                    JM
022710 SETNEG:                                   /* SET NEGATIVE SWITCH */ JM
022720    NEG%(3) = 0                                                     JM
022730    GOTO RMV_CHR                                                    JM
022740                                                                    JM
022750 ENDSENT:                                                           JM
022760    SENTPOS$ = "E"                       /* SET END OF SENTENCE FLAG */ JM
022770    IF J% = 1 THEN BB$ = "Y"                                        JM
022780                                                                    JM
022790 SETCLS:                                                            JM
022800    IF A$="," THEN LIST%=LIST%+1      /* COUNT COMMAS FOR 'LIST?' */ JM
022810    CLSPOS$ = "E"                          /* SET END OF CLAUSE FLAG */ JM
022820                                                                    JM
022830 RMV_CHR:                        /* REMOVE THE LAST CHAR. OF WORD */ JM
022840    STR(WORD1$,LEN%,1) = " "                                        JM
022850    LEN% = LEN% - 1                                                 JM
022860  GOTO CHKTRLG                                                      JM
022870                                                                    JM
022880 SGLCHAR: /* CHECK FOR VALID SINGLE CHARACTER, 'A' OR 'I' OR 'a' */ JM
022890    IF BB$ = "Y" THEN SAV1                                          JM
022900    A$ = STR(WORD1$,1,1)                                            JM
022910    IF A$ = "I" OR A$ = "A"   THEN SAV2       /* BEG. OF SENTENCE */ JM
022920    IF A$ = "a" THEN SP_RET                                         JM
022930  GOTO SAV3                                                         JM
022940                                                                    JM
022950 SAV1:                              '  /* SAVE SENT. AND CLS. FLAGS */ JM
022960    SENTPOS$ = BS$                                                  JM
022970    CLSPOS$ = BC$                                                   JM
022980  GOTO SAV3                                                         JM
022990                                                                    JM
023000 SAV2:                                /* CHECK AND SAVE SENT. FLAG */ JM
023010    IF SENTPOS$ = "B" THEN SENTPOS$ = " "                           JM
023020  GOTO SP_RET                                                       JM
023030                                                                    JM
023040 CHKNWSENT:                    /* CHECK FOR START OF NEW SENTENCE */ JM
023050    A$ = STR(WORD1$,LEN%,1)                                         JM
023060                                   /* CHECK FOR " 'S "  OR  " 's " */ JM
023070    IF A$="s" THEN A$="S"                                           JM
023080    IF A$="S" AND STR(WORD1$,LEN%-1,1) = "'"                      ! JM
023090       THEN LEN% = LEN% - 2                                         JM
023100    A$ = STR(WORD1$,1,1)                                            JM
023120    IF A$ < "A" THEN SAV3                                           JM
023130    IF A$ > "Z" THEN CHK_NUM                                        JM
023140  GOTO CHK_NUM                                                      JM
023150                                                                    JM
023160              /* CHECK FOR ACRONYMS, PROPER NOUNS */                JM
023170    IF A$ >= "a" THEN CHK_NUM                                       JM
```

```
023180    IF BB$ = "Y" THEN BADWD                                          JM
023190  GOTO SAV3                                                          JM
023200                                                                     JM
023210 CHK_NUM:              /* CHECK FOR IMBEDDED NUMBER OR NUMBERS */ JM
023220    J% = POS( STR(WORD1$,1,LEN%) < "A" )                            JM
023230    IF J% = 0 THEN SP_RET                                            JM
023240    IF STR(WORD1$,J%,1)<>"." THEN SAV3                              JM
023250                                                                     JM
023260 BADWD:                                      /* SET BAD WORD FLAG */ JM
023270    INVLD$ = "P"                                                     JM
023280    I% = 0                                                           JM
023290  GOTO SP_RET                                                        JM
023300                                                                     JM
023310 SAV3:                                      /* SAVE AND SET FLAGS */ JM
023320    INVLD$ = "Y"                                                     JM
023330    IF A$ < "A" AND LEN% < 3 AND SENTPOS$ = "E" THEN I% = 0          JM
023340                                                                     JM
023350 SP_RET:  RETURN                        /* STRIP PUNC. SUB. RETURN */ JM
023360                                                                     JM
023370 /*************************************************************/ JM
023380 /*                                                           */ JM
023390 /*  THIS SUBROUTINE PRINTS ALL WORDS AND FLAGS.              */ JM
023400 /*                                                           */ JM
023410 /*************************************************************/ JM
023420                                                                     JM
023430 PRNT_WDS:                                                           JM
023440                                                                     JM
023450      IF PHCT% = 1 THEN NORML                                        JM
023460      SAVPH$(PHCT%)=WORDS$                     /* SAVE THE LAST WORD */  JM
023470      SAVPHL%(PHCT%)=LW%(1)       /* SAVE THE LAST WORD'S LENGTH */ JM
023480      SAVSYL%(PHCT%)=TLC%            /* SAVE THE SYLLABLE COUNT */ JM
023490      IF WSL$="Y" THEN SAVREC1$(PHCT%)=REC1$                         JM
023500      IF WSL$="Y" THEN WSL$="N"                                      JM
023510      WORDS$=SAVPH$(1)                          /* USE THE FIRST WORD */ JM
023520      LW%(1)=SAVPHL%(1)           '  /* USE THE 1ST WORD'S LENGTH */ JM
023530      TLC%=SAVSYL%(1)             /* USE THE 1ST WORD'S SYL. CT. */ JM
023540    IF SAVSUBL%(1)<>0 THEN STR(WORDS$,25,35)=STR(SAVREC1$(1),21,35) JM
023550            FOR Q% = 1 TO PHCT%-1     /* MOVE WORDS IN THE ARRAY */ JM
023560                 SAVPH$(Q%)=SAVPH$(Q%+1)                           JM
023570                 SAVPHL%(Q%)=SAVPHL%(Q%+1)                         JM
023580                 SAVSYL%(Q%)=SAVSYL%(Q%+1)                         JM
023590                 SAVSUB$(Q%)=SAVSUB$(Q%+1)                         JM
023600                 SAVSUBL%(Q%)=SAVSUBL%(Q%+1)                       JM
023610                 SAVREC1$(Q%)=SAVREC1$(Q%+1)                       JM
023620            NEXT Q%                                                  JM
023630            SAVSUBL%(PHCT%)=0                                        JM
023640      K4%=PHCT%  :GOTO LOOP1                                         JM
023650 NORML:   K4%=IW%                                                    JM
023660      IF CW$="X" THEN K4%=1  :IF CW$="Y" THEN LNPAR                  JM
023670      IF K4%=0 THEN LNPAR      /* K4% = # OF WORDS */               JM
023680 LOOP1:  FOR I%=1 TO  K4%                                            JM
023690           IF I% = 1 THEN SKIPT                                      JM
023700           PHCT% = PHCT%-1                                           JM
023710           WORDS$=SAVPH$(1)                                          JM
023720           LW%(I%)=SAVPHL%(1)                                        JM
023730           TLC%=SAVSYL%(1)                                           JM
023740           IF SAVSUBL%(1)<>0   THEN STR(WORDS$,25,35)=             : JM
```

```
          STR(SAVREC1$(1),21,35)                                  JM
          IF PHCT%=1 THEN SKIPT                                   JM
          FOR Q% = 1 TO PHCT%-1      /* MOVE WORDS IN THE ARRAY */ JM
                SAVSYL%(Q%)=SAVSYL%(Q%+1)                         JM
                SAVPH$(Q%)=SAVPH$(Q%+1)                           JM
                SAVPHL%(Q%)=SAVPHL%(Q%+1)                         JM
                SAVSUB$(Q%)=SAVSUB$(Q%+1)                         JM
                SAVSUBL%(Q%)=SAVSUBL%(Q%+1)                       JM
                SAVREC1$(Q%)=SAVREC1$(Q%+1)                       JM
          NEXT Q%                                                 JM
          SAVSUBL%(PHCT%)=0                                       JM
SKIPT:   IF D%=2 THEN SUBT                          /* FLAGS ONLY */ JM
                                                                  JM
/* COMPUTE THE LENGTH OF DATA TO PRINT (IF IT'S TOO LONG FOR    */ JM
/*  THIS LINE, PRINT THE LINE AND PUT DATA ON NEXT LINE)        */ JM
                                                                  JM
         J% = LW%(I%)                                             JM
         K1% = 0                                                  JM
         K2% = 0                                                  JM
         K3% = 1                                                  JM
                                                                  JM
       /* CHECK FOR UNCOMMON WORD */                              JM
                                                                  JM
         IF UCWFLG$(I%) = "Y" AND UNCOM$="Y"                    ! JM
                 THEN PRTUNC    /* UNC WORD AND OPTION SELECTED */ JM
                                                                  JM
     /* IT'S A REGULAR WORD - CHECK FOR SUBSTITUTES  */           JM
                                                                  JM
          IF NUM_SUB$ ="0" OR STR(WORDS$,25,1)=" " OR INVLD$="Y" ! JM
             THEN CHKLL                                /* NO SUBS.*/ JM
         K1% = -1                                                 JM
         K1% = POS(STR(WORDS$,25,20) = " ") /* ?????? WORDS ????*/ JM
         J% = J% + K1% + 6     /* ADD SPACES FOR '<...><*...*>' */ JM
                                                                  JM
          /* CHECK ON SECOND SUBSTITUTE */                        JM
                                                                  JM
         IF NUM_SUB$="1" OR STR(WORDS$,45,1)=" " THEN CHKLL       JM
         /* ONLY ONE SUBSTITUTE NEEDED OR NO 2ND SUBS. */         JM
                                                                  JM
         K2% = -1                                                 JM
         K2% = POS(STR(WORDS$,45,15)=" ")                         JM
         J% = J% + K2% +1                   /* ADD SPACE FOR '/'  */ JM
                                                                  JM
         /* CHECK ON LINE LENGTH */                               JM
                                                                  JM
CHKLL:   IF IO% + J% > LL% THEN GOSUB PRTLNE       /* PRINT LINE */ JM
         IF K3% = 0 THEN OUT                   /* ERROR FROM PRTLNE */ JM
                                                                  JM
          /* BUILD OUTPUT LINE */                                 JM
                                                                  JM
         IF K1% = 0 THEN PIT          /* NO SUBSTITUTES FOR WORD */ JM
         STR(OLINE$,IO%,1) = "<"                                  JM
         IO% = IO% + 1                                            JM
                                                                  JM
         /* NOW ADD THE SUBSTITUTES */                            JM
                                                                  JM
PIT:    STR(OLINE$,IO%,LW%(I%)) = STR(WORDS$,1,LW%(I%))           JM
```

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024310          WC1%=WC1%+1                   /* INCREMENT THE WORD COUNT */ JM
024320          WP1%=WP1%+1        /* INCREMENT THE WORDS PER PAR. COUNT */ JM
024330          SLC1%=SLC1%+TLC%        /* INCREMENT THE SYLLABLE COUNT */ JM
024360          IO% = IO% + LW%(I%)                                          JM
024370          IF K1% = 0 THEN SUBT            /* STILL NO SUBSTITUTES */ JM
024380                                                                       JM
024390          /* INSERT FIRST SUBSTITUTE */                                JM
024400                                                                       JM
024410          STR(OLINE$,IO%,3)=")<*"                                      JM
024420          IO% = IO% + 3                                                JM
024430          STR(OLINE$,IO%,K1%) = STR(WORDS$,25,K1%)                     JM
024440          IO% = IO% + K1%                                              JM
024450                                                                       JM
024460            /* CHECK FOR SECOND SUBSTITUTE */                          JM
024470                                                                       JM
024480          IF K2% = 0 THEN FNSH                                         JM
024490          STR(OLINE$,IO%,1) = "/"                                      JM
024500          IO% = IO% + 1                                                JM
024510          STR(OLINE$,IO%,K2%) = STR(WORDS$,45,K2%)                     JM
024520          IO% = IO% + K2%                                              JM
024530                                                                       JM
024540              /* FINISH THE ENTRY */                                   JM
024550                                                                       JM
024560 FNSH:    STR(OLINE$,IO%,2)="*>"                                       JM
024570          IO% = IO% + 2                                                JM
024580          GOTO SUBT                                                    JM
024590                                                                       JM
024600             /* PRINT UNCOMMON WORDS */                                JM
024610                                                                       JM
024620 PRTUNC: J% = J% + 2                                 /* ADD [...] */ JM
024630                                                                       JM
024640             /* CHECK LINE LENGTH */                                   JM
024650                                                                       JM
024660          PFLAG% = K3%                                                 JM
024670          IF IO% + J% > LL% THEN GOSUB PRTLNE                          JM
024680          IF PFLAG% =0 THEN OUT                      /* ERROR RETURN */ JM
024690          STR(OLINE$,IO%,1)="["                                        JM
024700          IO% = IO% + 1                                                JM
024710          L$=STR(WORDS$,LW%(I%),1)                                     JM
024720          PZ%=POS(";:?.,!"=L$)                                         JM
024730          IF PZ%>0 THEN LW%(I%)=LW%(I%)-1                              JM
024740          STR(OLINE$,IO%,LW%(I%)) = STR(WORDS$,1,LW%(I%))              JM
024750          WC1%=WC1%+1                   /* INCREMENT THE WORD COUNT */ JM
024760          WP1%=WP1%+1        /* INCREMENT THE WORDS PER PAR. COUNT */ JM
024770          SLC1%=SLC1%+TLC%        /* INCREMENT THE SYLLABLE COUNT */ JM
024800          IO% = IO% + LW%(I%)                                          JM
024810          STR(OLINE$,IO%,1)="]"  :IO%=IO%+1  :UCWFLG$(I%)=" "          JM
024820          IF PZ%>0 THEN STR(OLINE$,IO%,1)=STR(WORDS$,LW%(I%)+1,1)      JM
024830          IF PZ%>0 THEN IO%=IO%+1                                      JM
024840 SUBT:    IF EOS%=0 THEN LSENT    /*HAVEN'T FOUND END OF SENTENCE */ JM
024850          WC%=WC%+WC1%                       /* INCREMENT WORD COUNT */ JM
024860          WP%=WP%+WP1%                 /* INCREMENT WORDS/PAR COUNT */ JM
024870          SLC%=SLC%+SLC1%                /* INCREMENT SYLLABLE COUNT */ JM
024900          EOS%, WC1%, WP1%, SLC1% = 0   /* RESET BUFFER VARIABLES */ JM
024910          IF UNCPT%>1 THEN GOSUB ADD_UNCWL  /* ADD UNCOMMON WORDS */ JM
024920                                                                       JM
024930          /* PRINT THE FLAGS - CHECK LONG SENTENCE FLAG */             JM
```

```
024940                                                                    JM
024950 LSENT:IF LSENT%(I%)=0 OR LNG_SEN$<>"Y" THEN PASSF /*NO LONG SEN.*/ JM
024960         PFLAG% = K3%                                               JM
024970         IF IO% + 7 > LL% THEN GOSUB PRTLNE                         JM
024980         IF PFLAG% = 0 THEN OUT                  /* ERROR RETURN */ JM
024990         CONVERT LSENT%(I%) TO K1$, PIC (###)                       JM
025000         STR(OLINE$,IO%,7)="<*"& K1$ & "*>"                         JM
025010         IO% = IO% + 7  :LSENT%(I%)=0                               JM
025020         IF (LIST%<3 AND CONSIS%=0) OR LIST%<5 THEN PASSF           JM
025030         PFLAG%=K3%                                                 JM
025040         IF IO% + 11 > LL% THEN GOSUB PRTLNE                        JM
025050         IF PFLAG% = 0 THEN OUT                  /* ERROR RETURN */ JM
025060         STR(OLINE$,IO%,11)="<* LIST? *>"                           JM
025070         IO% = IO% + 11                                             JM
025080                                                                    JM
025090          /*  CHECK ON PASSIVE FLAG */                              JM
025100                                                                    JM
025110 PASSF:  IF PASSV$<>"Y" AND TRNK_PV$<>"Y" THEN DNEG                 JM
025120         IF PASSVF$(I%)<> "Y" THEN DNEG                             JM
025130         PFLAG% = K3%                                               JM
025140         IF IO% + 19 > LL% THEN GOSUB PRTLNE                        JM
025150         IF PFLAG% = 0 THEN OUT                  /* ERROR RETURN */ JM
025160         STR(OLINE$,IO%,19) = "<* PASSIVE VOICE *>"                 JM
025170         IO% = IO% + 19      :PASSVF$(IW%)=" "                      JM
025180                                                                    JM
025190          /* CHECK DOUBLE NEGATIVE FLAG */                          JM
025200                                                                    JM
025210 DNEG:   IF NEG$<>"Y" THEN PREP      /* NO DOUBLE NEGATIVE OPTION */ JM
025220         IF DNFL$(I%)<>"Y" THEN PREP                                JM
025230         PFLAG% = K3%                                               JM
025240         IF IO% + 21 > LL% THEN GOSUB PRTLNE                        JM
025250         IF PFLAG% = 0 THEN OUT                  /* ERROR RETURN */ JM
025260         STR(OLINE$,IO%,21) = "<* DOUBLE NEGATIVE *>"               JM
025270         IO% = IO% + 21 :DNFL$(IW%)=" "                             JM
025370                                                                    JM
025480       /* CHECK PREPOSITION FLAG */                                 JM
025490                                                                    JM
025500 PREP:   IF PREP_CNT$<>"Y" THEN FUTURE                              JM
025510         IF PREPFL%(I%)= 0 THEN FUTURE                              JM
025520         PFLAG% = K3%                                               JM
025530         IF IO% + 33 > LL% THEN GOSUB PRTLNE                        JM
025540         IF PFLAG% = 0 THEN OUT                  /* ERROR RETURN */ JM
025550         CONVERT PREPFL%(I%) TO OO$, PIC (###)                      JM
025560           STR(OLINE$,IO%,33) = "<* TOO MANY (" & OO$ & ") PREPOSI! JM
025570 TIONS *>"                                                          JM
025580         PREPFL%(I%)=0                       /* RESET PREP. FLAG */ JM
025590         IO% = IO% + 33                                             JM
025600                                                                    JM
025610         /* LEAVE ROOM FOR FUTURE EXPANSION */                      JM
025620                                                                    JM
025630 FUTURE: IO% = IO% + 1                                              JM
025640    NEXT I%       /* THIS INCREMENTS THE BIG LOOP OF THIS ROUTINE */ JM
025650                                                                    JM
025660      /* NOW CHECK UNIQUE FLAGS - CHECK LONG PARAGRAPH FLAG */      JM
025670                                                                    JM
025680 LNPAR:  IF END_O_PAR$ <> "Y" THEN PERMSG                           JM
025690         END_O_PAR$ = " "                  /* RESET END_O_PAR FLAG */ JM
```

```
025700          IF LNG_PAR$<>"Y" THEN SPRST  /* PRINT OUT THE PARAGRAPH */ JM
025710          IF SP%<LNGSNT% AND WP%<LNGWDS%                           : JM
025720                              THEN SPRST         /* NOT TOO LONG */ JM
025730          PFLAG% = K3%                                               JM
025740          IF IO% + 57 > LL% THEN GOSUB PRTLNE                        JM
025750          IF PFLAG% = 0 THEN OUT                                     JM
025760          CONVERT SP% TO OO$, PIC (###)                              JM
025770          CONVERT WP% TO O1$, PIC (####)                             JM
025780          STR(OLINE$,IO%,57)="<* PARAGRAPH TOO LONG (" & OO$ &     : JM
025790 " SENTENCES WITH "& O1$ & " WORDS ) *>"                            JM
025800          IO% = IO% + 57   :SP%,WP%=0                                JM
025810          GOTO PERMSG                                                JM
025820 SPRST:   WP%,SP% = 0                                                JM
025830          PFLAG% = K3%                                               JM
025840          IF IO% > 1 THEN GOSUB PRTLNE                               JM
025850          IF PFLAG% = 0 THEN OUT                                     JM
025860                                                                     JM
025870        /* CHECK FOR PERSONAL SENTENCE MESSAGE; */                   JM
025880 /* NO NEED FOR THIS CODE IN PRT_WDS BECAUSE THE LAST WORD */        JM
025890            /* CAN ONLY HAPPEN HERE. */                              JM
025900                                                                     JM
025910 PERMSG: IF E_O_F$<>"Y" OR PERS_SENT$<>"Y" THEN RESET               JM
025920          K1 = 0                                                     JM
025930          IF INT_ANL$<>"Y" THEN SC=SC%                               JM
025940          IF INT_ANL$="Y" THEN SC=SC%+XSC%                           JM
025950          IF SC=0 THEN K1=0                                          JM
025960          IF SC=0 THEN NOSNT                                         JM
025970          PE=PE%                                                     JM
025980          K1=PE*100.0/SC                                             JM
025990          NOSNT: K3% = 1                                             JM
026000          PFLAG% = K3%                                               JM
026010          IF IO% + 30 > LL% THEN GOSUB PRTLNE                        JM
026020          IF PFLAG% = 0 THEN OUT                                     JM
026030          STR(OLINE$,IO%,2) = "<*"                                   JM
026040          IO%=IO%+3                                                  JM
026050          IF K1<100 THEN CONVERT K1 TO STR(OLINE$,IO%,4), PIC(##.#): JM
026060          ELSE CONVERT K1 TO STR(OLINE$,IO%,5), PIC(###.#)           JM
026070          IF K1<100 THEN IO%=IO%+4 ELSE IO%=IO%+5                    JM
026080          STR(OLINE$,IO%,23)="% PERSONAL SENTENCES *>"               JM
026090          IO%=IO%+23                                                 JM
026100          GOSUB PRTLNE                                               JM
026110          IF K3% = 0 THEN OUT                                        JM
026120                                                                     JM
026130           /* RESET WORK AREAS  */                                   JM
026140                                                                     JM
026150 RESET:   IF CW$ = "X" THEN REMOVE                                   JM
026160          WORDS$() = ALL(HEX(20))                                    JM
026170          IW% = 0                                                    JM
026180          GOTO POSTPONE                                              JM
026190                                                                     JM
026200           /* REMOVE FIRST WORD */                                   JM
026210                                                                     JM
026220 REMOVE:  IF IW% <= 1 THEN SINGLE                                    JM
026230          FOR I% = 1 TO (IW%-1)                                      JM
026240               WORDS$(I%) = WORDS$(I%+1)                             JM
026250               PASSVF$(I%) = PASSVF$(I%+1)                           JM
026260               DNFL$(I%) = DNFL$(I%+1)                               JM
```

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026270              NOUNFL$(I%) = NOUNFL$(I%+1)                            JM
026280              UCWFLG$(I%) = UCWFLG$(I%+1)                            JM
026290              LCLSFL%(I%) = LCLSFL%(I%+1)                            JM
026300              LSENT%(I%) = LSENT%(I%+1)                              JM
026310              PREPFL%(I%) = PREPFL%(I%+1)                            JM
026320              LW%(I%) = LW%(I%+1)                                    JM
026330         NEXT I%                                                     JM
026340         WORDS$(IW%) = ALL(HEX(20))                                  JM
026350         PASSVF$(IW%) = " "                                          JM
026360         DNFL$(IW%) = " "                                            JM
026370         NOUNFL$(IW%) = " "                                          JM
026380         UCWFLG$(IW%) = " "                                          JM
026390         LCLSFL%(IW%) = 0                                            JM
026400         LSENT%(IW%) = 0                                             JM
026410         PREPFL%(IW%) = 0                                            JM
026420         LW%(IW%) = 0                                                JM
026430         GOTO POSTPONE                                               JM
026440 SINGLE: WORDS$(1) = ALL(HEX(20))                                    JM
026450         PASSVF$(1) = " "                                            JM
026460         DNFL$(1) = " "                                              JM
026470         NOUNFL$(1) = " "                                            JM
026480         UCWFLG$(1) = " "                                            JM
026490         LCLSFL%(1) = 0                                              JM
026500         LSENT%(1) = 0                                               JM
026510         PREPFL%(1) = 0                                              JM
026520         LW%(1) = 0                                                  JM
026530 POSTPONE:                                                           JM
026540         IF IW% > 0 THEN IW% = IW%-1                                 JM
026550         IF D% = 3 THEN OUT                                          JM
026560                                                                     JM
026570     /* CHECK ON UNCOMMON WORDS AND PRINT IF TABLE IS FULL */        JM
026580                                                                     JM
026590         IF IDX% < 200 THEN OUT                                      JM
026600         GOSUB UWL                                                   JM
026601         GOSUB TOP                                                   JM
026610 OUT: IF CW$="Y" THEN CW$=" "                                        JM
026620      IF WC1%=0 THEN LIST%, CONSIS%=0                                JM
026630      RETURN                                /* PRNT_WDS SUB. RETURN */ JM
026640                                                                     JM
026650 /*************************************************************/ JM
026660 /*                                                           */ JM
026670 /*  THIS SUBROUTINE PRINTS ALL WORDS AND FLAGS FROM CHKPHSFL.  */ JM
026680 /*  THIS SUB. IS SIMILAR TO PRNT_WDS, BUT ONLY CALLED WHEN     */ JM
026690 /*  WORDS ARE REMOVED FROM POSSIBLE PHRASES.                  */ JM
026700 /*                                                           */ JM
026710 /*************************************************************/ JM
026720                                                                     JM
026730 PRT_WDS:                                                            JM
026740           IF PHCT% <> 1 THEN SKIPTI                                 JM
026750           WORDZ$=WORDO$                                             JM
026760           LENO%=LW%(1)                                              JM
026770           TLO%=TLC%                                                 JM
026780           GOTO SKIPTO                                               JM
026790  SKIPTI:  PHCT% = PHCT%-1                                           JM
026800           WORDZ$=SAVPH$(1)                                          JM
026810           LENO%=SAVPHL%(1)                                          JM
026820           TLO%=SAVSYL%(1)                                           JM
```

```
026830           IF SAVSUBL%(1)<>0 THEN STR(WORDZ$,25,35)=              ! JM
026840           STR(SAVREC1$(1),21,35)                                   JM
026850           IF PHCT%=1 THEN SKIPTO                                   JM
026860           FOR Q% = 1 TO PHCT%-1      /* MOVE WORDS IN THE ARRAY */ JM
026870                 SAVSYL%(Q%)=SAVSYL%(Q%+1)                          JM
026880                 SAVPH$(Q%)=SAVPH$(Q%+1)                            JM
026890                 SAVPHL%(Q%)=SAVPHL%(Q%+1)                          JM
026900                 SAVSUB$(Q%)=SAVSUB$(Q%+1)                          JM
026910                 SAVSUBL%(Q%)=SAVSUBL%(Q%+1)                        JM
026920                 SAVREC1$(Q%)=SAVREC1$(Q%+1)                        JM
026930           NEXT Q%                                                  JM
026940 SKIPTO:   SAVSUBL%(PHCT%)=0                                        JM
026950          IF D%=2 THEN LSENTO                      /* FLAGS ONLY */ JM
026960                                                                    JM
026970 /* COMPUTE THE LENGTH OF DATA TO PRINT (IF IT'S TOO LONG FOR    */ JM
026980 /*  THIS LINE, PRINT THE LINE AND PUT DATA ON NEXT LINE)        */ JM
026990                                                                    JM
027000          J% = LENO%                                                JM
027010          K1% = 0                                                   JM
027020          K2% = 0                                                   JM
027030          K3% = 1                                                   JM
027040                                                                    JM
027050        /* CHECK FOR UNCOMMON WORD */                               JM
027060                                                                    JM
027070          IF UCWFLG$(I%) = "Y" AND UNCOM$="Y"                     ! JM
027080                THEN PRTUNCO     /* UNC WORD AND OPTION SELECTED */ JM
027090      /* IT'S A REGULAR WORD - CHECK FOR SUBSTITUTES  */            JM
027100                                                                    JM
027110  IF NUM_SUB$ ="0" OR STR(WORDZ$,25,1)=" " THEN CHKLLO/* NO SUBS.*/ JM
027120          K1% = -1                                                  JM
027130          K1% = POS(STR(WORDZ$,25,20) = " ") /* ?????? WORDS ????*/ JM
027140          J% = J% + K1% + 6     /* ADD SPACES FOR '<...><*...*>' */ JM
027150                                                                    JM
027160           /* CHECK ON SECOND SUBSTITUTE */                         JM
027170                                                                    JM
027180          IF NUM_SUB$="1" OR STR(WORDZ$,45,1)=" " THEN CHKLLO       JM
027190          /* ONLY ONE SUBSTITUTE NEEDED OR NO 2ND SUBS. */          JM
027200                                                                    JM
027210          K2% = -1                                                  JM
027220          K2% = POS(STR(WORDZ$,45,15)=" ")                          JM
027230          J% = J% + K2% +1                   /* ADD SPACE FOR '/'  */ JM
027240                                                                    JM
027250          /* CHECK ON LINE LENGTH */                                JM
027260                                                                    JM
027270 CHKLLO:  IF IO% + J% > LL% THEN GOSUB PRTLNE       /* PRINT LINE */ JM
027280          IF K3% = 0 THEN OUTO               /* ERROR FROM PRTLNE */ JM
027290                                                                    JM
027300           /* BUILD OUTPUT LINE */                                  JM
027310                                                                    JM
027320          IF K1% = 0 THEN PITO        /* NO SUBSTITUTES FOR WORD */ JM
027330          STR(OLINE$,IO%,1) = "<"                                   JM
027340          IO% = IO% + 1                                             JM
027350                                                                    JM
027360          /* NOW ADD THE SUBSTITUTES */                             JM
027370                                                                    JM
027380 PITO:   STR(OLINE$,IO%,LENO%) = STR(WORDZ$,1,LENO%)                JM
027390         WC1%=WC1%+1                 /* INCREMENT THE WORD COUNT */ JM
```

```
027400          WP1%=WP1%+1       /* INCREMENT THE WORDS PER PAR. COUNT */ JM
027410          SLC1%=SLC1%+TLO%        /* INCREMENT THE SYLLABLE COUNT */ JM
027420          IO% = IO% + LENO%                                          JM
027430          IF K1% = 0 THEN LSENTO          /* STILL NO SUBSTITUTES */ JM
027440                                                                     JM
027450          /* INSERT FIRST SUBSTITUTE */                              JM
027460                                                                     JM
027470          STR(OLINE$,IO%,3)=">(*"                                    JM
027480          IO% = IO% + 3                                              JM
027490          STR(OLINE$,IO%,K1%) = STR(WORDZ$,25,K1%)                   JM
027500          IO% = IO% + K1%                                            JM
027510                                                                     JM
027520            /* CHECK FOR SECOND SUBSTITUTE */                        JM
027530                                                                     JM
027540          IF K2%=0 THEN FNSHO                                        JM
027550          STR(OLINE$,IO%,1) = "/"                                    JM
027560          IO% = IO% + 1                                              JM
027570          STR(OLINE$,IO%,K2%) = STR(WORDZ$,45,K2%)                   JM
027580          IO% = IO% + K2%                                            JM
027590                                                                     JM
027600             /* FINISH THE ENTRY */                                  JM
027610                                                                     JM
027620 FNSHO:   STR(OLINE$,IO%,2)="*>"                                     JM
027630          IO% = IO% + 2                                              JM
027640          GOTO LSENTO                                                JM
027650                                                                     JM
027660             /* PRINT UNCOMMON WORDS */                              JM
027670                                                                     JM
027680 PRTUNCO:J% = J% + 2                                 /* ADD [...] */ JM
027690                                                                     JM
027700             /* CHECK LINE LENGTH */                                 JM
027710                                                                     JM
027720          PFLAG% = K3%                                               JM
027730          IF IO% + J% > LL% THEN GOSUB PRTLNE                        JM
027740          IF PFLAG% =0 THEN OUTO                   /* ERROR RETURN */ JM
027750          STR(OLINE$,IO%,1)="["                                      JM
027760          IO% = IO% + 1                                              JM
027770          L$=STR(WORDZ$,LENO%,1)                                     JM
027780          PZ%=POS(";:?.,!"=L$)                                       JM
027790          IF PZ%>0 THEN LENO%=LENO%-1                                JM
027800          STR(OLINE$,IO%,LENO%) = STR(WORDZ$,1,LENO%)                JM
027810          WC1%=WC1%+1                   /* INCREMENT THE WORD COUNT */ JM
027820          WP1%=WP1%+1       /* INCREMENT THE WORDS PER PAR. COUNT */ JM
027830          SLC1%=SLC1%+TLO%        /* INCREMENT THE SYLLABLE COUNT */ JM
027840          IO% = IO% + LENO%                                          JM
027850          STR(OLINE$,IO%,1)="]"  :IO%=IO%+1  :UCWFLG$(I%)=" "        JM
027860          IF PZ%>0 THEN STR(OLINE$,IO%,1)=STR(WORDZ$,LENO%+1,1)      JM
027870          IF PZ%>0 THEN IO%=IO%+1                                    JM
027880                                                                     JM
027890          /* PRINT THE FLAGS - CHECK LONG SENTENCE FLAG */           JM
027900                                                                     JM
027910 LSENTO:  IF LSENT%(I%)=0 THEN PASSFO           /* NO LONG SENT. */ JM
027920          IF LNG_SEN$<>"Y" THEN PASSFO  /* LONG SEN. OPTION NOT Y */ JM
027930          PFLAG% = K3%                                               JM
027940          IF IO% + 7 > LL% THEN GOSUB PRTLNE                         JM
027950          IF PFLAG% = 0 THEN OUTO                  /* ERROR RETURN */ JM
027960          CONVERT LSENT%(I%) TO K1$, PIC (###)                       JM
```

```
027970          STR(OLINE$,IO%,7)="<*"& K1$ & "*>"                        JM
027980          IO% = IO% + 7  :LSENT%(I%)=0                              JM
027990          IF (LIST%<3 AND CONSIS%=0) OR LIST%<5 THEN PASSFO         JM
028000          PFLAG%=K3%                                                JM
028010          IF IO% + 11 > LL% THEN GOSUB PRTLNE                       JM
028020          IF PFLAG% = 0 THEN OUT                  /* ERROR RETURN */ JM
028030          STR(OLINE$,IO%,11)="<* LIST? *>"                          JM
028040          IO% = IO% + 11                                            JM
028050                                                                    JM
028060           /*  CHECK ON PASSIVE FLAG */                             JM
028070                                                                    JM
028080 PASSFO:  IF PASSV$<>"Y" AND TRNK_PV$<>"Y" THEN DNEGO               JM
028090          IF PASSVF$(I%) <> "Y" THEN DNEGO                          JM
028100          PFLAG% = K3%                                              JM
028110          IF IO% + 19 > LL% THEN GOSUB PRTLNE                       JM
028120          IF PFLAG% = 0 THEN OUTO                 /* ERROR RETURN */ JM
028130          STR(OLINE$,IO%,19) = "<* PASSIVE VOICE *> "               JM
028140          IO% = IO% + 19      :PASSVF$(IW%)=" "                     JM
028150                                                                    JM
028160           /* CHECK DOUBLE NEGATIVE FLAG */                         JM
028170                                                                    JM
028180 DNEGO:   IF NEG$<>"Y" THEN PREPO                                   JM
028190          IF DNFL$(I%)<>"Y" THEN PREPO                              JM
028200          PFLAG% = K3%                                              JM
028210          IF IO% + 21 > LL% THEN GOSUB PRTLNE                       JM
028220          IF PFLAG% = 0 THEN OUTO                 /* ERROR RETURN */ JM
028230          STR(OLINE$,IO%,21) = "<* DOUBLE NEGATIVE *>"              JM
028240          IO% = IO% + 21 :DNFL$(IW%)=" "                            JM
028440                                                                    JM
028450        /* CHECK PREPOSITION FLAG */                                JM
028460                                                                    JM
028470 PREPO:   IF PREP_CNT$<>"Y" THEN FUTUREO                            JM
028480          IF PREPFL%(I%)= 0 THEN FUTUREO                            JM
028490          PFLAG% = K3%                                              JM
028500          IF IO% + 33 > LL% THEN GOSUB PRTLNE                       JM
028510          IF PFLAG% = 0 THEN OUTO                 /* ERROR RETURN */ JM
028520          CONVERT PREPFL%(I%) TO OO$, PIC (###)                     JM
028530            STR(OLINE$,IO%,33) = "<* TOO MANY (" & OO$ & ") PREPOSI! JM
028540 TIONS *>"                                                          JM
028550          PREPFL%(I%)=0                       /* RESET PREP. FLAG */ JM
028560          IO% = IO% + 33                                            JM
028570                                                                    JM
028580          /* LEAVE ROOM FOR FUTURE EXPANSION */                     JM
028590                                                                    JM
028600 FUTUREO:IO% = IO% + 1                                              JM
028610                                                                    JM
028620       /* NOW CHECK UNIQUE FLAGS - CHECK LONG PARAGRAPH FLAG */     JM
028630                                                                    JM
028640          IF END_O_PAR$ <> "Y" THEN RESETO        /* NO END_O_PAR */ JM
028650          END_O_PAR$ = " "                    /* RESET END_O_PAR FLAG */ JM
028660          IF LNG_PAR$<>"Y" THEN SPRSTO     /* PRINT THE PARAGRAPH */ JM
028670          IF SP% < LNGSNT% AND WP% < LNGWDS%                       ! JM
028680                            THEN SPRSTO         /* NOT TOO LONG */ JM
028690          PFLAG% = K3%                                              JM
028700          IF IO% + 57 > LL% THEN GOSUB PRTLNE                       JM
028710          IF PFLAG% = 0 THEN OUTO                                   JM
028720          CONVERT SP% TO OO$, PIC (###)                             JM
```

```
028730          CONVERT WP% TO O1$, PIC (####)                              JM
028740          STR(OLINE$,IO%,57)="<* PARAGRAPH TOO LONG (" & OO$ &      ! JM
028750 " SENTENCES WITH "& O1$ &  " WORDS ) *>"                             JM
028760          IO% = IO% + 57   :SP%,WP%=0                                 JM
028770          GOTO RESETO                                                 JM
028780 SPRSTO:  SP% = 0     /* CODE TO PUT END_O_PARS ON SEPERATE LINES */ JM
028790          WP% = 0                       /* WORDS PER PARAGRAPH = 0 */ JM
028800          PFLAG% = K3%                                                JM
028810          IF IO% > 1 THEN GOSUB PRTLNE                                JM
028820          IF PFLAG% = 0 THEN OUTO                                     JM
028830                                                                      JM
028840           /* RESET WORK AREAS  */                                    JM
028850                                                                      JM
028860 RESETO:  IF IW%<= 1 THEN SINGLEO                                     JM
028870          FOR I% = 1 TO (IW%-1)                                       JM
028880               PASSVF$(I%) = PASSVF$(I%+1)                            JM
028890               DNFL$(I%) = DNFL$(I%+1)                                JM
028900               NOUNFL$(I%) = NOUNFL$(I%+1)                            JM
028910               UCWFLG$(I%) = UCWFLG$(I%+1)                            JM
028920               LCLSFL%(I%) = LCLSFL%(I%+1)                            JM
028930               LSENT%(I%) = LSENT%(I%+1)                              JM
028940               PREPFL%(I%) = PREPFL%(I%+1)                            JM
028950               LW%(I%) = LW%(I%+1)                                    JM
028960          NEXT I%                                                     JM
028970          PASSVF$(IW%) = " "                                          JM
028980          DNFL$(IW%) = " "                                            JM
028990          NOUNFL$(IW%) = " "                                          JM
029000          UCWFLG$(IW%) = " "                                          JM
029010          LCLSFL%(IW%) = 0                                            JM
029020          LSENT%(IW%) = 0                                             JM
029030          PREPFL%(IW%) = 0                                            JM
029040          LW%(IW%) = 0                                                JM
029050          GOTO POSTPONO                                               JM
029060 SINGLEO:                                                             JM
029070          PASSVF$(1) = " "                                            JM
029080          DNFL$(1) = " "                                              JM
029090          NOUNFL$(1) = " "                                            JM
029100          UCWFLG$(1) = " "                                            JM
029110          LCLSFL%(1) = 0                                              JM
029120          LSENT%(1) = 0                                               JM
029130          PREPFL%(1) = 0                                              JM
029140          LW%(1) = 0                                                  JM
029150 POSTPONO:                                                            JM
029160          IF IW% > 0 THEN IW% = IW%-1                                 JM
029170          IF D% = 3 THEN OUTO                                         JM
029180                                                                      JM
029190      /* CHECK ON UNCOMMON WORDS AND PRINT IF TABLE IS FULL */        JM
029200                                                                      JM
029210          IF IDX% < 200 THEN OUTO                                     JM
029220          GOSUB UWL                                                   JM
029221          GOSUB TOP                                                   JM
029230 OUTO: IF CW$="Y" THEN CW$=" "                                        JM
029240       IF WC1%=0 THEN LIST%, CONSIS% = 0                              JM
029250       RETURN                              /* PRT_WDS SUB. RETURN */ JM
029260                                                                      JM
029270 /*************************************************************/ JM
029280 /*                                                           */ JM
```

```
Wang VS Integrated Editor - Version  6.10.00       13:49 12/14/84    Page     51
Input File is ANALYSIS in Library CRES@SRC on Volume CRES01

029290 /*      SUBROUTINE TTL_PGE SETS UP THE HEADER BLOCK FOR THE      */ JM
029300 /* ANALYSIS.  THIS BLOCK SHOWS WHAT FILE WAS SELECTED FOR THE    */ JM
029310 /* ANALYSIS, THE TECHNICAL WORD LISTS USED, AND THE OPTIONS      */ JM
029320 /* SELECTED.                                                      */ JM
029330 /*                                                                */ JM
029340 /*****************************************************************/ JM
029350                                                                     JM
029360 TTL_PGE:                              /* SUBROUTINE TTL_PGE BEGINS */ JM
029370        C$=HEX(8001)                                /* TOP OF FORM */ JM
029380        WRITE #12, USING DOG, C$                                      JM
029390        C$ = HEX(0010)                            /* SKIP 10 LINES */ JM
029400        WRITE #12, USING DOG, C$                                      JM
029410        C$ = HEX(0001)                                                JM
029420        FOR IQ%=1 TO IE%                                              JM
029430        WRITE #12, USING DOG1, C$, BUFFA$(IQ%)                        JM
029440        NEXT IQ%                                                      JM
029450 RETURN                                                               JM
029460 DOG:     %##                                                         JM
029470                                                                      JM
029480 DOG1:      %## ####################################################! JM
029490 ###########################                                          JM
029500 ENDSUB: RETURN                       /* ANALYSIS SUBROUTINE RETURN */ JM
```

Title Page Set-Up (TTLPGE)

TTLPGE in library CRES@SRC is the BASIC language program which sets up the header page of the CRES Analysis report. This header page is printed at the beginning of the analysis printout and includes the names of the document analyzed, any technical word lists utilized, and the options selected for inclusion in the analysis. A header page is included in the sample CRES output found in appendix D. The object language version of this program is TTLPGE in library CRES@SAV.

A complete program listing follows.

```
Wang VS Integrated Editor - Version  6.10.00        13:17 09/17/84    Page      1
Input File is TITLPAGE in Library CRES@SRC on Volume CRES00

000010 /**********************************************************************/ JM
000020 /*                                                                    */ JM
000030 /*       SUBROUTINE TTLPGE SETS UP THE HEADER BLOCK FOR THE          */ RT
000040 /* ANALYSIS.  THIS BLOCK SHOWS WHAT FILE WAS SELECTED FOR THE         */ JM
000050 /* ANALYSIS, THE TECHNICAL WORD LISTS USED, AND THE OPTIONS          */ JM
000060 /* SELECTED.                                                          */ JM
000070 /*                                                                    */ JM
000080 /**********************************************************************/ JM
000090                                                                          JM
000100 SUB "TTLPGE" ADDR(BUFFER$(),PAG_TITL$,DOCFIL$,LIB$,DOCVOL$,RGL$,       ! JM
000110      PREP_CNT$,PASSV$,LNG_SEN$,LNG_PAR$,LNGWDS$,LNGSNT$,NEG$,          ! JM
000120      UNCOM$,NUM_SUBZ$,INT_ANL$,NP$,ADVFN$,PERS_SENT$,LNG_CLS$,        ! JM
000130      TRNK_PV$,TECFIL$(),TECLIB$(),TECVOL$(),IE%)                         JM
000140 DIM PAG_TITL$60,DOCFIL$04,LIB$01,DOCVOL$6,RGL$1,PREP_CNT$1               JM
000150 DIM PASSV$1,LNG_SEN$1,LNG_PAR$1,LNGWDS$3,LNGSNT$2,NEG$1,UNCOM$1          JM
000160 DIM NUM_SUBZ$1,INT_ANL$1,NP$2,ADVFN$1,PERS_SENT$1,LNG_CLS$1              JM
000170 DIM TRNK_PV$1,TECFIL$(7)08,TECLIB$(7)08,TECVOL$(7)06                     JM
000180 DIM BUFFER$(40)77,DAT$8,D$08,T$05                                        JM
000190         DAT$= DATE                                  /* FETCH THE DATE */ JM
000200         D$= STR(DAT$,3,2)&"/"&STR(DAT$,5,2)&"/"&STR(DAT$,1,2)            JM
000210         T$= STR(TIME,1,2)&":"&STR(TIME,3,2)                              JM
000220         BUFFER$(1)="!--------------------------------------------------! JM
000230 ----------------------------!"                                           JM
000240         BUFFER$(2)="!                                                  ! JM
000250                              !"                                          JM
000260         BUFFER$(3)="!          "& D$ &"                                ! JM
000270            "& T$ &"           !"                                         JM
000280         BUFFER$(4)="!                     ********     CRES ANALYSIS   ! JM
000290   ********                   !"                                          JM
000300         BUFFER$(5)=BUFFER$(2)                                            JM
000310         BUFFER$(6)=BUFFER$(1)                                            JM
000320         BUFFER$(7)=BUFFER$(2)                                            JM
000330         IE%=8                                                            JM
000340         IF PAG_TITL$ = "                         " THEN GERRY            JM
000350         BUFFER$(8)="!   TITLE: "& STR(PAG_TITL$,1,60) & " !"             JM
000360         BUFFER$(9)=BUFFER$(2)                                            JM
000370         IE%=10                                                           JM
000380 GERRY: BUFFER$(IE%)="!   INPUT FILE: "& DOCFIL$ & "       INPUT LI! JM
000390 BRARY: "& LIB$ & "      INPUT VOLUME: " & DOCVOL$ & "    !"              JM
000400         IE%=IE%+1                                                        JM
000410         BUFFER$(IE%)=BUFFER$(2)                         /*SKIP A LINE */ JM
000420         IE%=IE%+1                                                        JM
000430         BUFFER$(IE%)="!                     OPTIONS SELECTED FOR THIS ! JM
000440 ANALYSIS:                     !"                                         JM
000450         IE%=IE%+1                                                        JM
000460         BUFFER$(IE%)="!                     ===========================! JM
000470 ========                      !"                                         JM
000480         IE%=IE%+1                                                        JM
000490         BUFFER$(IE%)=BUFFER$(2)                         /*SKIP A LINE */ JM
000500         IE%=IE%+1                                                        JM
000510         BUFFER$(IE%)="!   REPORT FINAL READING GRADE LEVEL: "&        ! JM
000520 RGL$ & "     COUNT PREPOSITIONS: " & PREP_CNT$ & "       !"              RT
000530         IE%=IE%+1                                                        JM
000540         BUFFER$(IE%)="!   FLAG PASSIVE VOICE: "& PASSV$ & "           ! JM
000550              FLAG LONG SENTENCES: "& LNG_SEN$ & "       !"               RT
000560         IE%=IE%+1                                                        JM
000570         BUFFER$(IE%)="!   FLAG DOUBLE NEGATIVES: "& NEG$ & "          ! JM
```

```
Wang VS Integrated Editor - Version  6.10.00       13:17 09/17/84   Page      2
Input File is TITLPAGE in Library CRES@SRC on Volume CRES00

000580            FLAG UNCOMMON WORDS: " & UNCOM$ & "      :"               RT
000590         IE%=IE%+1                                                     JM
000600         BUFFER$(IE%)=":   INCLUDE SUBSTITUTES: "& NUM_SUBZ$ &"    : JM
000610                INTERIM ANALYSIS: "& INT_ANL$ & "         :"           RT
000620         IE%=IE%+1                                                     JM
000630         BUFFER$(IE%)=":   NUMBER OF PAGES BETWEEN REPORTS: "&     : JM
000640 STR(NP$,1,2) & "     CHECK PERSONAL SENTENCES: " & PERS_SENT$&" :" RT
000650         IE%=IE%+1                                                     JM
000700         BUFFER$(IE%)=":   CHECK FOR TRUNCATED PASSIVE VOICE: " &  : JM
000710 TRNK_PV$ & "                               :"                        JM
000720         IE%=IE%+1                                                     JM
000730         IF LNG_PAR$ = "Y" THEN BUFFER$(IE%)=BUFFER$(2)                RT
000740         IF LNG_PAR$ = "Y" THEN IE%=IE%+1
000750         BUFFER$(IE%)=":   FLAG LONG PARAGRAPHS: "& LNG_PAR$ &"    : RT
000760                                             :"                        JM
000770         IE%=IE%+1                                                     JM
000780         IF LNG_PAR$="Y" THEN BUFFER$(IE%)=":            HOW LONG?  : JM
000790    WORDS = "& STR(LNGWDS$,1,3) &"      SENTENCES = " &             : JM
000800    STR(LNGSNT$,1,2) &"           :"                                   JM
000810         IF LNG_PAR$="Y" THEN IE%=IE%+1                                JM
000820         BUFFER$(IE%)=BUFFER$(2)                                       RT
000830         IE%=IE%+1                                                     JM
000840         ZBT%=0                                                        JM
000850         FOR ID%=1 TO 7                                                JM
000860         IF TECFIL$(ID%)="        " AND TECLIB$(ID%)="        " AND: JM
000870            TECVOL$(ID%)="      " THEN NIL                             JM
000880         IF ZBT%=1 THEN ZOUND                                          JM
000890         BUFFER$(IE%)=":                          TECHNICAL WORD LISTS : JM
000900 USED:                           :"                                    JM
000910         IE%=IE%+1                                                     JM
000920         BUFFER$(IE%)=":                          ======================: JM
000930 ====                            :"                                    JM
000940         IE%=IE%+1                                                     JM
000950         BUFFER$(IE%)=BUFFER$(2)                                       JM
000960         IE%=IE%+1                                                     JM
000970         ZBT%=1                                                        JM
000980 ZOUND:     BUFFER$(IE%) = ":   FILE: "&  STR(TECFIL$(ID%),1,8) & : JM
000990   "        LIBRARY: " & STR(TECLIB$(ID%),1,8) & "    VOLUME: " & : JM
001000     STR(TECVOL$(ID%),1,6) & "          :"                             JM
001010         IE%=IE%+1                                                     JM
001020 NIL:    NEXT ID%                                                      JM
001030         BUFFER$(IE%)=BUFFER$(2)                                       JM
001040         IE%=IE%+1                                                     JM
001050         BUFFER$(IE%)=BUFFER$(1)                                       JM
001060         END                                                           JM
```

COPY WORD LISTS TO TAPE SUBSYSTEM

Copy Word Lists To Tape (CRESTAPE)

CRESTAPE in library CRES@SRC is the BASIC language program which copies one or more of the CRES word lists to tape. The object language version is CRESTAPE in library CRES@SAV.

This program requires the user to specify the word list to be copied and the name or number of the tape where the list is to be written. If the word list does not exist, or if there is no available tape drive, an appropriate message is displayed on the screen. If the word list does exist and there is an available drive, but no tape mounted, the user will be prompted to mount a tape. If a tape is already mounted, the program will copy the specified word list to the tape. On completion of the copy, the program returns to the word list specification screen to enable the user to write another word list to tape or to exit the Copy Word Lists to Tape option. The program requires that the word lists to be copied be specified one at a time. Each given list is copied successively to tape, not overwriting the previous word list, provided they are done in the same session. However, if the program is exited and then re-entered, the tape will be regarded as blank and word lists will be written starting at the beginning of the tape, writing over any previous word lists or other data.

Figure 5 presents a flowchart of the program to copy word lists to tape. A complete program listing follows.

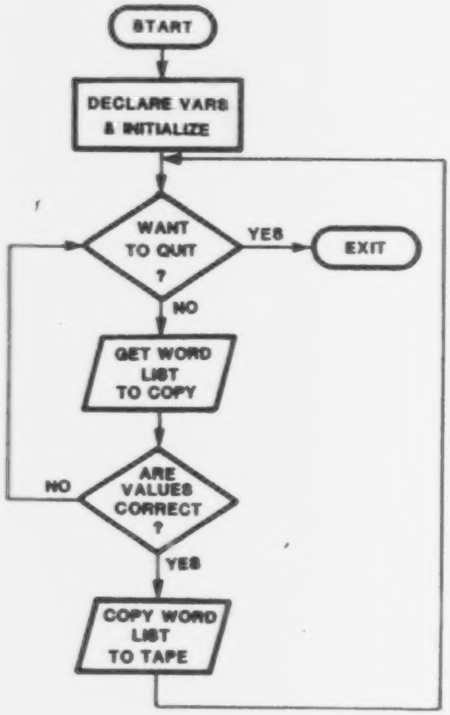
START
DECLARE VARS
& INITIALIZE
WANT
TO QUIT
?
YES
EXIT
NO
GET WORD
LIST
TO COPY
NO
ARE
VALUES
CORRECT
?
YES
COPY WORD
LIST
TO TAPE

Figure 5. CRES Copy Word Lists to Tape Flowchart.

```
*** Wang VS File Display Utility - Version  3.08.01 *** 01/13/86 13:42 Page      1
Consecutive File CRESTAPE in Library CRES@SRC on Volume CRES01

000020/*****************************************************************/RT
000040/*                                                                */RT
000060/* PROGRAM: BULDTAPE          DATE REVISED: 11/25/83  BY: RT      */RT
000080/*                                                                */RT
000100/* THIS PROGRAM READS THE DISK FILE AND PUTS THE DATA ON TAPE.   */RT
000120/*                                                                */RT
000140/*****************************************************************/RT
000160                                                                    RT
000180   DIM DISK_BUF4$220,DISK_BUF1$50,DISK_BUF2$80,DISK_BUF3$190        JM
000200   DIM TAPEINFO$255, FINDTAPE$24, TVOL$6, OPEN%(2), RET$5           RT
000220                                                                    RT
000240/*  This is the CRES TAPE BUILDING SUBSYSTEM PROGRAM             */ RT
000260/*                                                               */ RT
000280/*                   AUTHOR: Rose Tank                           */ RT
000300/*                   Date:    November 25, 1983                  */ RT
000320/*                                                               */ RT
000340/*  This program copies a disk data file on to a tape for        */ RT
000360/*  distribution to the CRES users.                              */ RT
000380                                                                    RT
000400DIM DFILE$8,DLIB$8,DVOL$6,USER$3                                    RT
000420DIM HEADER$27,CODE$1,L$1,V$1,B$1,C$1,D$1,E$1,ER$40,F$40             RT
000440F$= "Filename not found on (library/volume)."                      RT
000460SEQNO%=0                                                            RT
000480CALL "EXTRACT" ADDR("IV",DVOL$,"ID",USER$,"IL",DLIB$)               RT
000500                                                                    RT
000520HEADER$        ="CRES DISK TO TAPE SUBSYSTEM"                       RT
000540NEXTFILE:                                                           RT
000560       DFILE$=" ":G$=HEX(81)                                        RT
000580        ER$=" ":L$=HEX(81)                                          RT
000600        V$=HEX(81): E$=HEX(8D)                                      RT
000620FILMNU:                                                             RT
000640DIM ENTER$          05                                              RT
000660DIM PF16$           04                                              RT
000680ENTER$          ="ENTER"                                            RT
000700PF16$           ="PF16"                                             RT
000720ACCEPT                                                             !RT
000740       AT (01,01),                                                 !JM
000760"CRES: Disk to Tape                         (Build Tape Data File S!JM
000780election Screen)",                                                 !JM
000800       AT (02,01),                                                 !JM
000820"=================================================================!RT
000840================",                                                 !JM
000860       AT (04,21),                                                 !RT
000880"Welcome to the",                                                  !RT
000900       AT (04,36), FAC(HEX(85)),       HEADER$       , CH(27),     !RT
000920       AT (07,02),                                                 !RT
000940"  This Tape Program allows you to copy the word lists to tape fr!JM
000960om the disk.",                                                     !JM
000980       AT (08,02),                                                 !RT
001000"  Please specify below the list you want to copy and the Tape Na!JM
001020me or Number.",                                                    !JM
001140       AT (13,30),                                                 !JM
```

```
*** Wang VS File Display Utility - Version  3.08.01 *** 01/13/86 13:42 Page     2
Consecutive File CRESTAPE in Library CRES@SRC on Volume CRES01

001160"File      =",                                                         !RT
001180         AT (13,44), FAC(HEX(81)),        DFILE$        , CH(08), !JM
001200         AT (14,30),                                                   !JM
001220"Library   =",                                                         !RT
001240         AT (14,44), FAC(HEX(81)),        DLIB$         , CH(08), !JM
001260         AT (15,30),                                                   !JM
001280"Volume    =",                                                         !RT
001300         AT (15,44), FAC(HEX(81)),        DVOL$         , CH(06), !JM
001320         AT (17,27),                                                   !JM
001340"Tape Name or Number =",                                               !RT
001360         AT (17,49), FAC(HEX(81)),        TVOL$         , CH(06), !JM
001380         AT (19,17), FAC(E$),             ER$           , CH(50), !RT
001400         AT (22,29),                                                   !JM
001420" Press",                                                              !RT
001440         AT (22,36), FAC(HEX(85)),        ENTER$        , CH(05), !JM
001460         AT (22,42),                                                   !JM
001480"to continue",                                                         !RT
001500         AT (23,22),                                                   !RT
001520"Press",                                                               !RT
001540         AT (23,28), FAC(HEX(84)),        PF16$         , CH(04), !RT
001560         AT (23,33),                                                   !RT
001580"to return to the Master Menu",                                        !RT
001600KEYS(BIN(0)&BIN(16)&BIN(32)),                                          !RT
001620ON (BIN(16)&BIN(32)) GOTO OUT,OUT                                       RT
001640                                                                        RT
001660   SELECT #1,"DISKFILE",VARC,INDEXED,RECSIZE=50 ,                      !RT
001680        KEYPOS=1, KEYLEN=20, IOERR GOTO IOERR1                          RT
001700   SELECT #2,"DISKFILE",VARC,INDEXED,RECSIZE=80 ,                      !RT
001720        KEYPOS=1, KEYLEN=20, IOERR GOTO IOERR1                          RT
001740   SELECT #3,"DISKFILE",VARC,INDEXED,RECSIZE=195,                      !JM
001760        KEYPOS=1, KEYLEN=20, IOERR GOTO IOERR1                          RT
001780   SELECT #4,"DISKFILE",VARC,INDEXED,RECSIZE=220,                      !JM
001800        KEYPOS=1, KEYLEN=20, IOERR GOTO IOERR1                          JM
001820                                                                        RT
001840/* SEE IF THE SPECIFIED FILE EXISTS */                                  RT
001860                                                                        RT
001880CALL "LIMITS"(DFILE$,DLIB$,DVOL$,CODE$,ER$)                             RT
001900IF CODE$="Y" THEN ZZZ                                                   RT
001920IF CODE$="N" THEN GOSUB'7(F$,HEX(91),HEX(81),HEX(81))                   RT
001940IF CODE$="V" THEN GOSUB'7(STR(ER$,3),HEX(81),HEX(81),HEX(91))           RT
001960IF CODE$="L" THEN GOSUB'7(STR(ER$,3),HEX(81),HEX(91),HEX(81))           RT
001980IF CODE$="E" THEN GOSUB'7(STR(ER$,3),HEX(81),HEX(81),HEX(81))           RT
002000GOTO FILMNU                                                             RT
002020                                                                        RT
002040ER$=" ":G$,L$,V$,E$=HEX(8D)                                             RT
002060ZZZ:   CALL "READFDR" ADDR(DFILE$,DLIB$,DVOL$,0%,"RS",RSIZ%,RET%) RT
002080                                                                        RT
002100        IF RSIZ%<51 THEN K=1                                            RT
002120        IF RSIZ%>50 AND RSIZ%<81 THEN K=2                               RT
002140        IF RSIZ%>80 AND RSIZ%<191 THEN K=3                              JM
002160        IF RSIZ%>190 THEN K=4                                           JM
002180                                                                        RT
```

```
** Wang VS File Display Utility - Version  3.08.01 *** 01/13/86 13:42 Page     3
  secutive File CRESTAPE in Library CRES@SRC on Volume CRES01

002200        SELECT #5,"TAPEFIL1",TAPE,NL,RECSIZE=50 ,BLKSIZE=4000,     !JM
002220        DENSITY=1600,IOERR GOTO IOERR2                              RT
002240                                                                    RT
002260        SELECT #6,"TAPEFIL2",TAPE,NL,RECSIZE=80 ,BLKSIZE=4000,     !JM
002280        DENSITY=1600,IOERR GOTO IOERR2                              RT
002300                                                                    RT
002320        SELECT #7,"TAPEFIL3",TAPE,NL,RECSIZE=190,BLKSIZE=3800,     !JM
002340        DENSITY=1600,IOERR GOTO IOERR2                              RT
002360                                                                    JM
002380        SELECT #8,"TAPEFIL4",TAPE,NL,RECSIZE=220,BLKSIZE=4400,     !JM
002400        DENSITY=1600,IOERR GOTO IOERR2                              JM
002420                                                                    RT
002440 SEQNO%=SEQNO%+1                                                    RT
002460/*  'extract' volume name and number of tape drives  */             RT
002480   TAPEINFO$=HEX(02FD)                                              RT
002500   CALL "EXTRACT" ADDR("IV",DVOL$,"DL",TAPEINFO$)                   RT
002520                                                                    RT
002540   I=VAL(STR(TAPEINFO$,2))                                          RT
002560   DEVNO%=0                                                         RT
002580   SAVENO%=0                                                        RT
002600   FOR J=1 TO I                                                     RT
002620        FINDTAPE$=STR(TAPEINFO$,2+J,1)                              RT
002640        CALL "EXTRACT" ADDR("D ",FINDTAPE$)                         RT
002660        IF STR(FINDTAPE$,9,6)=" " AND SAVENO%=0 THEN               !RT
002680           SAVENO%=VAL(STR(TAPEINFO$,2+J,1))                        RT
002700        IF STR(FINDTAPE$,9,6)<>TVOL$ THEN 2760                      JM
002720        DEVNO%=VAL(STR(TAPEINFO$,2+J,1))                            RT
002740        J=I                                                         RT
002760   NEXT J                                                           RT
002780   IF DEVNO%<>0 THEN 3080                                           JM
002800                                                                    RT
002820   IF SAVENO%<>0 THEN 2920                                          JM
002840PRINT AT(22,1,);BELL;"All your tape drives are busy  OR  incorrec!RT
002860t Tape Name (or Number)." : INPUT "PRESS  ENTER  ",RET$             RT
002880   GOTO CLSFL                                                       RT
002900                                                                    RT
002920   DEVNO%=SAVENO%                                                   RT
002940   CALL "MOUNT" ADDR(SAVENO%,TVOL$,"N","E","R","N","B"," ",R%)      RT
002960        IF R%=0 THEN 3080                                           JM
002980        PRINT AT(22,1,);BELL;"Tape Mount failed ";R%                RT
003000        PRINT AT(23,1);"Touch 'ENTER' to return to menu. ";         RT
003020        INPUT RET$                                                  RT
003040        GOTC CLSFL                                                  RT
003060                                                                    RT
003080   IF OPEN%(1) = 1 THEN CLOSE #K                                    RT
003100   OPEN NOGETPARM #K, INPUT, FILE=DFILE$, LIBRARY=DLIB$,           !RT
003120        VOLUME=DVOL$                                                RT
003140   OPEN%(1) = 1                                                     RT
003160                                                                    RT
003180   IF OPEN%(2) = 1 THEN CLOSE #K+4                                  JM
003200   OPEN NOGETPARM #K+4, OUTPUT, VOLUME=TVOL$, FILESEQ=SEQNO%        JM
003220   OPEN%(2) = 1                                                     RT
```

```
*** Wang VS File Display Utility - Version  3.08.01 *** 01/13/86 13:42 Page     4
Consecutive File CRESTAPE in Library CRES@SRC on Volume CRES01

003240                                                                  RT
003260DISPLAY                                                          !RT
003280                 AT (01,03),                                     !RT
003300              "CRES Subsystem: Build Tape Data File",            !RT
003320              "                       (Writing to Tape)",        !RT
003340                 AT (02,03),                                     !RT
003360"================================================================!RT
003380============",                                                   !RT
003400                 AT(09,21),                                      !RT
003420            "Writing to the following Tape : ",                  !RT
003440                 AT (11,25),                                     !RT
003460            "   VOLUME    ==> '",TVOL$,"'"                          RT
003480                                                                  RT
003500   ON(K) GOTO 3520,3540,3560,3570                                 JM
003520   READ #K,DISK_BUF1$, EOD GOTO CLSFL :GOTO 3580                  JM
003540   READ #K,DISK_BUF2$, EOD GOTO CLSFL :GOTO 3580                  JM
003560   READ #K,DISK_BUF3$, EOD GOTO CLSFL :GOTO 3580                  JM
003570   READ #K,DISK_BUF4$, EOD GOTO CLSFL :GOTO 3580                  JM
003580   ON(K) GOTO 3600,3620,3640,3660                                 JM
003600      WRITE #K+4, DISK_BUF1$, DATA GOTO IOERR2  :GOTO 3500        JM
003620      WRITE #K+4, DISK_BUF2$, DATA GOTO IOERR2  :GOTO 3500        JM
003640      WRITE #K+4, DISK_BUF3$, DATA GOTO IOERR2  :GOTO 3500        JM
003660      WRITE #K+4, DISK_BUF4$, DATA GOTO IOERR2  :GOTO 3500        JM
003680                                                                  RT
003700CLSFL:   IF OPEN%(1) = 1 THEN CLOSE #K                            RT
003720         IF OPEN%(2) = 1 THEN CLOSE #K+4                          JM
003740         MAT OPEN%=ZER                                            RT
003760         GOTO NEXTFILE                                            RT
003780                                                                  RT
003800OUT:     CALL "DISMOUNT" ADDR(TVOL$,"T",R%)                       RT
003820         END                                                      RT
003840                                                                  RT
003860/* THIS FUNCTION PRINTS OUT ERROR MESSAGES AND  */                 RT
003880/* SETS UP FLASHING FAC'S IN APPROPRIATE PLACES */                 RT
003900DEF FN'7(ER$,B$,C$,D$)                                            RT
003920     PRINT                                                        RT
003940     E$=HEX(94)                                                   RT
003960     G$=B$                                                        RT
003980     L$=C$                                                        RT
004000     V$=D$                                                        RT
004020RETURN                                                            RT
004040                                                                  RT
004060IOERR1: PRINT PAGE, AT(01,01), "I/O ERROR ON DISK DATA FILE #1.  !RT
004080FILE STATUS IS : ";FS(#1)                                         RT
004100        STOP " PRESS ENTER TO RETURN TO PREVIOUS MENU"            RT
004120        GOTO CLSFL                                                RT
004140                                                                  RT
004160IOERR2: PRINT PAGE, AT(01,01), "I/O ERROR ON TAPE DATA FILE #2.  !RT
004180FILE STATUS IS : ";FS(#K)                                         RT
004200        STOP " PRESS ENTER TO RETURN TO PREVIOUS MENU"            RT
004220        GOTO CLSFL                                                RT
*** End of Listing ************************************************************
```

REFERENCES

A need to address illiteracy problems in the military services. Washington, DC: General Accounting Office, 1977.

Improved management of maintenance manuals needed in DOD. Washington, DC: General Accounting Office, 1979.

Chief, Naval Education and Training, Code N-5. Letter to Commander, Naval Training Equipment Center, Training Analysis and Evaluation Group (Code 1), 29 June 1978.

Military Specification. Manuals, Technical: General style and format requirements. (MIL-M-38784B), Washington, DC: Department of Defense, 16 April 1983.

Kincaid, J. P., Aagard, J. A., & O'Hara, J. W. Development and test of a Computer Readability Editing System (CRES). (Technical Report No. 83). Orlando, FL: Training Analysis and Evaluation Group, 1980.

Kincaid, J. P., McDaniel, W. C., & Pierce, M. Word lists to simplify vocabulary of technical information. (Technical Report No. 164). Orlando, FL: Naval Training Equipment Center, 1985.

Schalow, S. R., & Mears, J. E. Computer readability and editing system (CRES): User's reference manual. (Technical Report 86-xxx). Orlando, FL: Naval Training Systems Center, in press.

Kincaid, J. P., & Pierce, M. Computer readability editing system (CRES) for writers and editors. (Technical Report 86-xxx). Orlando, FL: Naval Training Systems Center, in press.

APPENDIX A

APPENDIX A

The following provides definitions of the CRES word lists, and the control file for each. Other lists can be created with different names and used in the CRES analysis, but the format for each would be identical to those listed below.

CMNWDLST	This is the Common Word List used in the CRES analysis.
WRDSBLST	This is the Word Substitute List used in the CRES analysis.
PHRSBLST	This is the Phrase Substitute List used in the CRES analysis.
TECWDLST	This is a Technical Word List used in the CRES analysis. There can be any number of these lists created, each with a different name. Up to seven may be used in any given analysis.
ABACGLOS	This is the Abbreviation/Acronym Glossary used in the CRES analysis.
GLOSSARY	This is the Reference Glossary. The words contained on this list are not used in the CRES analysis.

```
                              CONTROL FILE UTILITY PROGRAM
                              DATE: 01/07/85 TIME: 10:42
                              List of Control File

                  Control File Characteristics

                       File Name: CMNWDLST

             Records are fixed-length, record size is 0040

          File organization is indexed, with key field = WORD




                  OPERATION            ALLOWED?

                 File report             YES

                Record update            YES

               Record deletion           YES

Description:  THIS FORMAT IS FOR THE RECORDS OF THE COMMON WORD LIST

              ASSOCIATED WITH CRES


 Field    Start Int Int Ext Rep Dec Occur Report/ Blank Date/  Cum    Valid-
 Name     Posn  Fmt Len Len Len Pos Count Update  After Time  Field   ation   Alias Name

WORD         1   C   20  20  20  0    1    R/U    YES                         WORD

PRTOFSPC    21   C    1   1   1  0    1 ,  R/U    YES                         PART OF SPEECH

PPART       22   C    1   1   1  0    1    R/U    YES                         PAST PARTICIPLE

NEGATIVE    23   C    1   1   1  0    1    R/U    YES                         NEGATIVE FLAG

TOBE        24   C    1   1   1  0    1    R/U    YES                         TO BE FLAG

FILLER      25   C    1   1   1  0    1    R/U    YES

ROOTWORD    26   C    1   1   1  0    1    R/U    YES                         ROOT WORD FLAG

FILLER2     27   C    1   1   1  0    1    R/U    YES

PROTECT     28   C    3   3   3  0    1    R/U    YES                         PROTECTION BYTES

FILLER3     31   C   10  10  10  0    1    R/U    YES
```

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```
                                   CONTROL FILE UTILITY PROGRAM
                                   DATE: 01/07/85 TIME: 10:43
                                   List of Control File

                        Control File Characteristics

                            File Name: WRDSBLST

                 Records are fixed-length, record size is 0080

             File organization is indexed, with key field = WORD




                        OPERATION           ALLOWED?

                       File report            YES

                      Record update           YES

                     Record deletion          YES

Description:   THIS IS THE RECORD FORMAT FOR THE WORD SUBSTITUTION LIST

               ASSOCIATED WITH CRES


 Field    Start Int Int Ext Rep Dec Occur Report/ Blank Date/  Cum    Valid-
 Name     Posn  Fmt Len Len Len Pos Count Update  After Time   Field   ation   Alias Name

WORD        1    C   20  20  20  0    1    R/U     YES                          WORD

SUBONE     21    C   20  20  20  0    1    R/U     YES                          FIRST SUBSTITUTE

SUBTWO     41    C   15  15  15  0    1    R/U     YES                          SECOND SUBSTITUTE

PRTOSPC    56    C    1   1   1  0    1    R/U     YES                          PART OF SPEECH

PPFL       57    C    1   1   1  0    1    R/U     YES                          PAST PARTICIPLE

NEGFL      58    C    1   1   1  0    1    R/U     YES                          NEGATIVE FLAG

PROTECT    59    C    3   3   3  0    1    R/U     YES                          PROTECTION BYTES

FILLER     62    C   19  19  19  0    1    R/U     YES
```

```
                                 CONTROL FILE UTILITY PROGRAM
                                 DATE: 01/07/85 TIME: 10:42
                                 List of Control File

                         Control File Characteristics

                            File Name: PHRSBLST

                 Records are fixed-length, record size is 0070

             File organization is indexed, with key field = WORD




                         OPERATION          ALLOWED?

                        File report           YES

                       Record update          YES

                      Record deletion         YES

Description:   THIS IS THE RECORD FORMAT FOR THE PHRASE SUBSTITUTION LIST

               ASSOCIATED WITH CRES


 Field   Start Int Int Ext Rep Dec Occur Report/ Blank Date/  Cum     Valid-
 Name    Posn Fmt Len Len Len Pos Count  Update After  Time  Field    ation      Alias Name

WORD         1  C   24  24  24  0    1     R/U    YES                            PHRASE

SUBONE      25  C   20  20  20  0    1     R/U    YES                            FIRST SUBSTITUTE

SUBTWO      45  C   20  20  20  0    1     R/U    YES                            SECOND SUBSTITUT

PROTECT     65  C    3   3   3  0    1     R/U    YES                            PROTECTION BYTES

FILLER      68  C    3   3   3  0    1     R/U    YES
```

```
                                CONTROL FILE UTILITY PROGRAM
                                DATE: 01/07/85 TIME: 10:42
                                List of Control File

                    Control File Characteristics

                         File Name: PHRSBLST

             Records are fixed-length, record size is 0070

          File organization is indexed, with key field = WORD




                    OPERATION            ALLOWED?

                   File report             YES

                  Record update            YES

                 Record deletion           YES

Description:   THIS IS THE RECORD FORMAT FOR THE PHRASE SUBSTITUTION LIST

               ASSOCIATED WITH CRES


 Field    Start Int Int Ext Rep Dec Occur Report/ Blank Date/  Cum     Valid-
 Name      Posn Fmt Len Len Len Pos Count  Update After Time  Field    ation    Alias Name

WORD          1  C   24  24  24  0    1     R/U    YES                          PHRASE

SUBONE       25  C   20  20  20  0    1     R/U    YES                          FIRST SUBSTITUTE

SUBTWO       45  C   20  20  20  0    1     R/U    YES                          SECOND SUBSTITUTE

PROTECT      65  C    3   3   3  0    1     R/U    YES                          PROTECTION BYTES

FILLER       68  C    3   3   3  0    1     R/U    YES
```

```
                              CONTROL FILE UTILITY PROGRAM
                              DATE: 01/07/85 TIME: 10:43
                              List of Control File

                    Control File Characteristics

                         File Name: TECWDLST

             Records are fixed-length, record size is 0040

          File organization is indexed, with key field = WORD



                      OPERATION            ALLOWED?

                     File report             YES

                    Record update            YES

                   Record deletion           YES

Description:   THIS IS THE RECORD FORMAT FOR THE TECHNICAL WORD LISTS

               ASSOCIATED WITH CRES


 Field    Start Int Int Ext Rep Dec Occur Report/ Blank Date/  Cum      Valid-
 Name     Posn  Fmt Len Len Len Pos Count Update  After Time   Field    ation    Alias Name

WORD         1  C   20  20  20   0    1    R/U    YES                            WORD

PRTOFSPC    21  C    1   1   1   0    1    R/U    YES                            PART OF SPEECH

PPART       22  C    1   1   1   0    1    R/U    YES                            PAST PARTICIPLE

NEGATIVE    23  C    1   1   1   0    1    R/U    YES                            NEGATIVE FLAG

TOBE        24  C    1   1   1   0    1    R/U    YES                            FORM OF TO BE FLA

FILLER      25  C    1   1   1   0    1    R/U    YES

ROOTWORD    26  C    1   1   1   0    1    R/U    YES                            ROOT WORD FLAG

MTWD        27  C    1   1   1   0    1    R/U    YES                            MANDATORY TECHNIC

PROTECT     28  C    3   3   3   0    1    R/U    YES                            PROTECTION BYTES

FILLER2     31  C   10  10  10   0    1    R/U    YES
```

```
                                       DATE: 01/07/85 TIME: 10:38
                                       List of Control File

                            Control File Characteristics

                                File Name: ABACGLOS

                     Records are fixed-length, record size is 0190

                File organization is indexed, with key field = WORD




                            OPERATION              ALLOWED?

                           File report                YES

                          Record update               YES

                         Record deletion              YES

Description:   THIS IS THE RECORD FORMAT FOR THE ABBREVIATION/ACRONYM

               GLOSSARY ASSOCIATED WITH CRES


 Field    Start Int  Int Ext Rep Dec Occur Report/ Blank Date/  Cum      Valid-
  Name     Posn Fmt  Len Len Len Pos Count  Update After  Time  Field    ation     Alias Name

WORD          1  C    20  20  20  0    1     R/U    YES                             ABBREV/ACRONYM

TYPE         21  C     1   1   1  0    1 ,   R/U    YES                             B-ABBREV,C-ACRONYM

DEF1         22  C    55  55  55  0    1     R/U    YES                             DEFINITION LINE 1

DEF2         77  C    55  55  55  0    1     R/U    YES                             DEFINITION LINE 2

DEF3        132  C    55  55  55  0    1     R/U    YES                             DEFINITION LINE 3

FILLER      187  C     4   4   4  0    1     R/U    YES
```

APPENDIX B

APPENDIX B

The following is a list of the included programs and data files, and the library in which they reside:

File Name	Library	Description
LIMITS	@SYSSAV@	Checks for the existence of specific files
FINDUSER	@SYSSAV@	Finds a specific user logged on the system
ABBRELST	CRES@BAK	Backup copy of Abbreviation/Acronym list
ADMCLER	CRES@BAK	Backup copy of Administrative/Clerical Technical Word List
AIREQUI	CRES@BAK	Backup copy of Aircraft Equipment Technical Word List
CMNWDLST	CRES@BAK	Backup copy of the Common Word List
COMMNAV	CRES@BAK	Backup copy of the Communication/Navigation Technical Word List
ELIMSPCH	CRES@BAK	Backup copy of a table of characters to be eliminated from documents before analysis
GENELCT	CRES@BAK	Backup copy of the General Electronics Technical Word List
GLOSSARY	CRES@BAK	Backup copy of the Glossary
HMELCT	CRES@BAK	Backup copy of the Hull, Mechanical, and Electrical Technical Word List
PHRSBLST	CRES@BAK	Backup copy of the Phrase Substitution List
PROPENG	CRES@BAK	Backup copy of the Propulsion Engineering Technical Word List
WRDSBLST	CRES@BAK	Backup copy of the Word Substitution List
WSCONT	CRES@BAK	Backup copy of the Weapon Systems Control Technical Word List
ABACGLOS	CRES@CTL	Control file for the Abbreviation/Acronym List
CMNWDLST	CRES@CTL	Control file for the Common Word List
GLOSSARY	CRES@CTL	Control file for the Glossary
PHRSBLST	CRES@CTL	Control file for the Phrase Substitution List
TECWDLST	CRES@CTL	Control file for the Technical Word Lists
WRDSBLST	CRES@CTL	Control file for the Word Substitution List
ABBRELST	CRES@DAT	Abbreviation/Acronym List
ADMCLER	CRES@DAT	Administrative/Clerical Technical Word List
AIREQUI	CRES@DAT	Aircraft Equipment Technical Word List
CMNWDLST	CRES@DAT	Common Word List
COMMNAV	CRES@DAT	Communications/Navigation Technical word List
ELIMSPCH	CRES@DAT	Table of characters to be eliminated from documents before analysis
GENELCT	CRES@DAT	General Electronics Technical Word List
GLOSSARY	CRES@DAT	Technical Word Glossary

HMELCT	CRES@DAT	Hull, Mechanical, and Electrical Technical Word List
PHRSBLST	CRES@DAT	Phrase Substitution List
PROPENG	CRES@DAT	Propulsion Engineering Technical Word List
WRDSBLST	CRES@DAT	Word Substitution List
WSCONT	CRES@DAT	Weapon Systems Control Technical Word List
ANALDISP	CRES@PRC	Procedure Language routine to display completed analyses at the terminal
CRES	CRES@PRC	Procedure Language routine that serves as the main driver for the CRES system
CRES@BCG	CRES@PRC	Procedure Language routine that serves as a driver for the Maintain Glossaries subsystem
CRES@CMW	CRES@PRC	Procedure Language routine that serves as a driver for the Create/Maintain Common Word List subsystem
CRES@SWL	CRES@PRC	Procedure Language routine that serves as a driver for the Create/Maintain Technical Word List subsystem
CRES@WSL	CRES@PRC	Procedure Language routine that serves as a driver for the Create/Maintain Substitution Lists subsystem
DISPFILE	CRES@PRC	Procedure Language routine to display selected word lists at the terminal
ANALYSIS	CRES@SAV	The object code for the Analysis Program
CRES@BCG	CRES@SAV	The object code for the Maintain Abbreviation/ Acronym Program
CRES@BCP	CRES@SAV	The object code for the Print Abbreviation/ Acronym Program
CRES@CPA	CRES@SAV	The object code for the Print Common Words By Attribute Program
CRES@CWL	CRES@SAV	The object code for the Create/Maintain Common Word List Program
CRES@CWP	CRES@SAV	The object code for the Print Common Word List Program
CRES@ERW	CRES@SAV	The object code for the Expand Root Words Program
CRES@PSL	CRES@SAV	The object code for the Create/Maintain Phrase Substitution List Program
CRES@PSP	CRES@SAV	The object code for the Print Phrase Substitution List Program
CRES@RND	CRES@SAV	The object code for random number generation
CRES@SBP	CRES@SAV	The object code for the Print Combination of Word and Phrase Substitution Lists Program
CRES@TPA	CRES@SAV	The object code for the Print Technical Words by Attribute Program

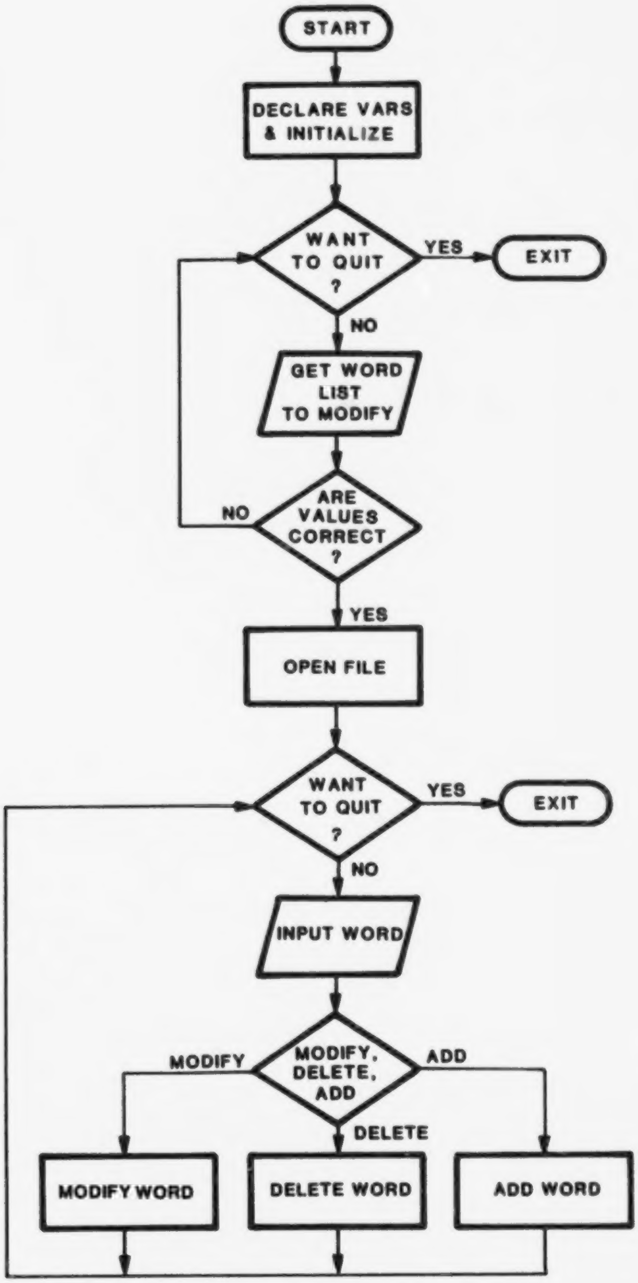
CRES@TWL	CRES@SAV	The object code for the Create/Maintain Technical Word List Program
CRES@TWP	CRES@SAV	The object code for the Print Technical Word List Program
CRES@WSL	CRES@SAV	The object code for the Create/Maintain Word Substitution List Program
CRES@WSP	CRES@SAV	The object code for the Print Word Substitution List Program
CRESGLOP	CRES@SAV	The object code for the Glossary Print Program
CRESGLOS	CRES@SAV	The object code for the Maintain Glossary Program
CRESTAPE	CRES@SAV	The object code for the Word List to Tape Program
CRSEN1	CRES@SAV	The object code for a logoff graphics program

APPENDIX C

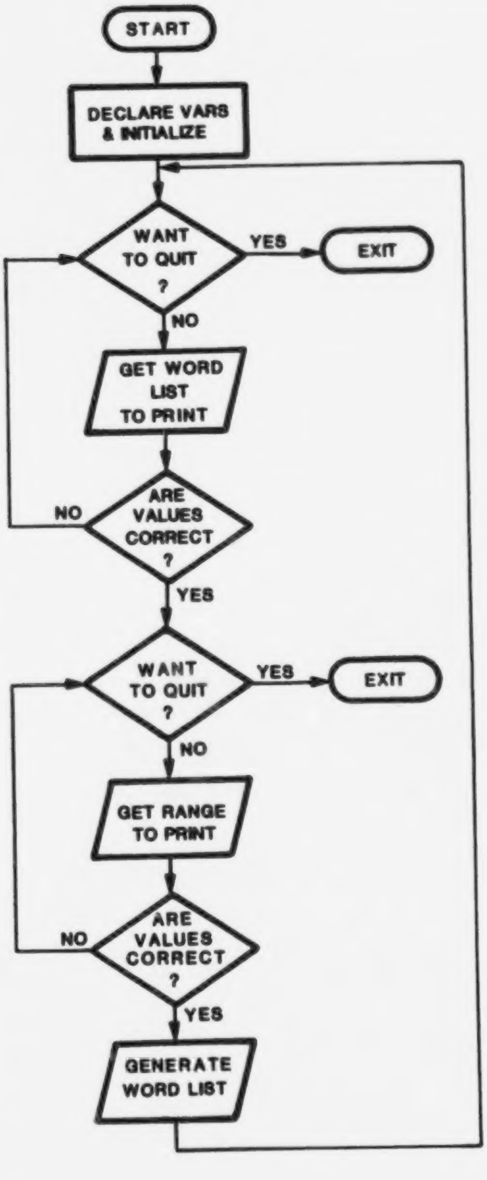
APPENDIX C

There are three categories of programs in the CRES system that are essentially the same in all the subsystems. They are the programs to create and/or maintain a word list or glossary, the programs to print a word list or glossary, and the programs to print a word list or glossary according to a specified attribute or combination of attributes. This appendix presents the basic flowcharts for these three categories of programs.

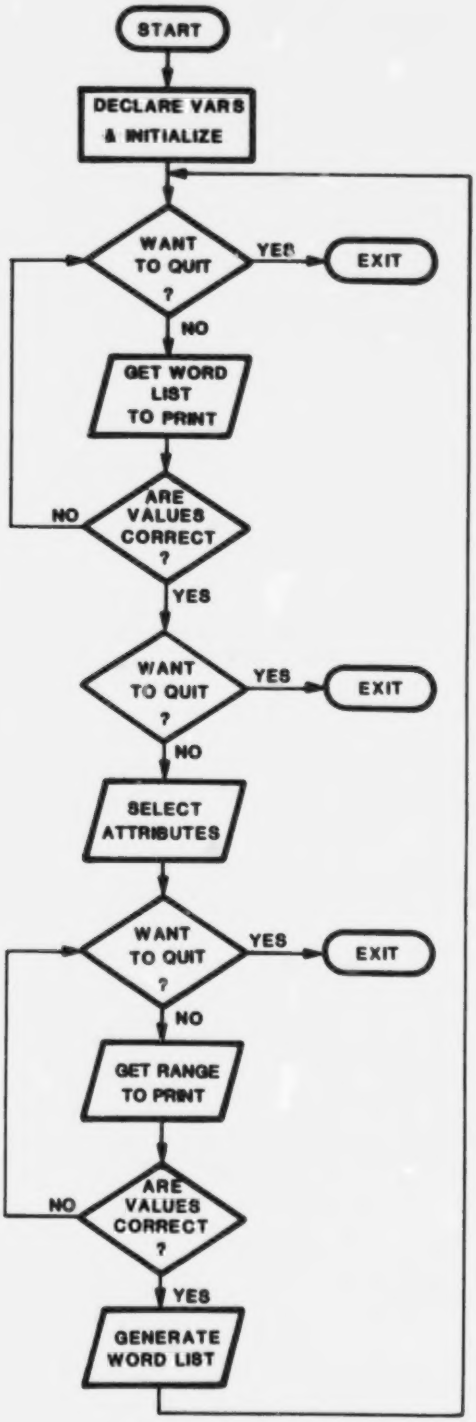
CRES Create/Maintain Word List Flowchart


START
DECLARE VARS & INITIALIZE
WANT TO QUIT ?
YES
EXIT
NO
GET WORD LIST TO MODIFY
ARE VALUES CORRECT ?
NO
YES
OPEN FILE
WANT TO QUIT ?
YES
EXIT
NO
INPUT WORD
MODIFY, DELETE, ADD
MODIFY
ADD
DELETE
MODIFY WORD
DELETE WORD
ADD WORD

CRES Print Word List Flowchart


START
DECLARE VARS & INITIALIZE
WANT TO QUIT ?
YES
EXIT
NO
GET WORD LIST TO PRINT
ARE VALUES CORRECT ?
NO
YES
WANT TO QUIT ?
YES
EXIT
NO
GET RANGE TO PRINT
ARE VALUES CORRECT ?
NO
YES
GENERATE WORD LIST

CRES Print Word List by Attribute Flowchart


START
DECLARE VARS & INITIALIZE
WANT TO QUIT ?
YES
EXIT
NO
GET WORD LIST TO PRINT
ARE VALUES CORRECT ?
NO
YES
WANT TO QUIT ?
YES
EXIT
NO
SELECT ATTRIBUTES
WANT TO QUIT ?
YES
EXIT
NO
GET RANGE TO PRINT
ARE VALUES CORRECT ?
NO
YES
GENERATE WORD LIST

APPENDIX D

APPENDIX D

Sample Text Input to CRES

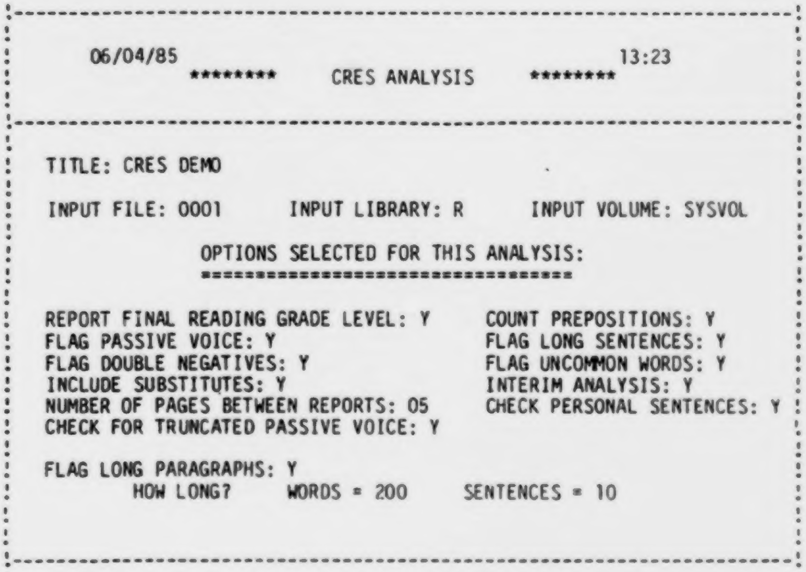
The honors and ceremonies prescribed in these regulations may be dispensed with when directed by the Secretary of the Navy, or when requested by an individual to whom such honors and ceremonies are due. No salute shall be fired in honor of any nation or of any official of any nation not formally recognized by the Government of the United States; and, except as authorized by the Secretary of the Navy, no other honors or ceremonies prescribed in these regulations shall be rendered or exchanged with such nations or officials. Should the required number or frequency of international salutes, official visits, or other honors and ceremonies be deemed excessive, the senior officer present in the United States naval service may make alterations, subject to the requirements of international courtesy, such modifications as circumstances warrant and as may be agreed upon with responsible officials or the senior officer present of the nation involved. The National Anthem of the United States, "The Star Spangled Banner", when played by a naval band shall be played in its entirety as written and as prescribed in the official United States Navy Band arrangement which is designated as the official Department of Defense arrangement. The playing of the National Anthem of the United States, or of any other country, as a part of a medley is prohibited. When a foreign national anthem is prescribed in connection with honors, and it is considered appropriate to perform the National Anthem of the United States therewith, the National Anthem of the United States shall be performed last. On other occasions when a foreign national anthem (or anthems) is performed, the National Anthem of the United States will be performed last, except when performed in conjunction with Morning Colors.

Whenever the National Anthem is played, all naval service personnel not in formation shall stand at attention and face the national ensign; but in the event that the national ensign is not being displayed, they shall face the source of the music. When covered they shall come to the salute at the first note of the anthem; and shall remain at the salute until the last note of the anthem. Persons in formation are brought to order arms or called to attention as appropriate. The formation commander shall face in the direction of the ensign or in the absence of the ensign shall face in the direction of the music and shall render the appropriate salute for his unit. Persons in formation participating in a ceremony shall, on command, follow the procedure prescribed for the ceremony. Persons in vehicles or in boats shall follow the procedure prescribed for such persons during colors; persons in civilian clothes shall comply with the rules and customs established for civilians. The same marks of respect prescribed during the playing of the National Anthem shall be shown during the playing of a foreign national anthem. The ceremonial hoisting and lowering of the national ensign at 0800 and sunset at a naval command ashore or aboard a ship of the Navy not under way shall be known as Morning Colors and Evening Colors, respectively, and shall be carried out as prescribed in this article. The guard of the day and the bands shall be paraded in the vicinity of the the point of hoist of the ensign. "Attention" shall be sounded, followed by the playing of the National Anthem by the band. At Morning Colors, the ensign shall be started up at the beginnning of the music and hoisted smartly to the peak or truck. At Evening Colors, the ensign shall be started from the peak or truck at the beginning of the music and the lowering so regulated as to be completed at the last note.

It is the responsibility of transferring activities to ensure that members acquire obligated service necessary for tour length selected by the member. If, at the time of transfer, a member is undecided as to which tour (accompanied/all others) he/she desires, sufficient obligated service to complete the "all others" tour for the area regardless of the member's pay grade or length of service, personnel ordered to an overseas activity (land-based or afloat) shall have sufficient obligated service to ensure completion of the appropriate accompanied tour prescribed for the area to which ordered prior to execution of orders. Attainment of obligated service through actual reenlistment/extension of enlistment is required. Page 13 entry for attainment of obligated service is prohibited. Personnel approaching fleet reserve/retirement eligibility. Personnel who have completed 15 or more years active duty for the period of time required to complete the applicable tour prescribed for the overseas area to which assigned. Transfer to the Fleet Reserve or Retired List will not normally be authorized prior to completion of the prescribed overseas tour. Personnel approaching retirement eligibility are cautioned of the fact that the requirement to complete the applicable tour for the overseas area may disallow their eligibility to request a twilight tour. Personnel (other than CT, OT, RM, and enlisted women in those ratings listed in Article 3.181) will not normally be involuntarily required to serve consecutive overseas tours unless Navy requiremnts (billet priorities) direct such action. Personnel assigned consecutive overseas tours as a result of voluntary action will be required to serve the appropriate accompanied/all others tour length.

CRES Analysis of Sample Text

The following pages contain the CRES analysis of the preceding text. The first page is a header, which is printed at the beginning of each analysis. This header contains all the information pertinent to the particular analysis. The date and time of the analysis, any title specified, the name and location of the file which was analyzed, and the options selected for the given analysis are all listed for future reference. Then the text is printed with editorial insertions flagging long sentences and long paragraphs, with the associated word or sentence count, double negatives, passive voice construction, and any other attributes which were indicated during option selection. Word and phrase substitutes are included in parentheses if that option was specified. At the conclusion of the text the Reading Grade Analysis is printed and the "uncommon" words encountered in the text are listed in alphabetical order.



```
:-------------------------------------------------------------------------:
:                                                                         :
:     06/04/85                                              13:23         :
:               ********     CRES ANALYSIS      ********                  :
:                                                                         :
:-------------------------------------------------------------------------:
:                                                                         :
:  TITLE: CRES DEMO                                                       :
:                                                                         :
:  INPUT FILE: 0001      INPUT LIBRARY: R      INPUT VOLUME: SYSVOL       :
:                                                                         :
:              OPTIONS SELECTED FOR THIS ANALYSIS:                        :
:              ==================================                         :
:                                                                         :
:  REPORT FINAL READING GRADE LEVEL: Y      COUNT PREPOSITIONS: Y         :
:  FLAG PASSIVE VOICE: Y                    FLAG LONG SENTENCES: Y        :
:  FLAG DOUBLE NEGATIVES: Y                 FLAG UNCOMMON WORDS: Y        :
:  INCLUDE SUBSTITUTES: Y                   INTERIM ANALYSIS: Y           :
:  NUMBER OF PAGES BETWEEN REPORTS: 05      CHECK PERSONAL SENTENCES: Y   :
:  CHECK FOR TRUNCATED PASSIVE VOICE: Y                                   :
:                                                                         :
:  FLAG LONG PARAGRAPHS: Y                                                :
:          HOW LONG?     WORDS = 200     SENTENCES = 10                   :
:                                                                         :
:                                                                         :
:-------------------------------------------------------------------------:
```

The honors and ceremonies prescribed in these regulations may be dispensed <* PASSIVE VOICE *> with when directed by the Secretary of the Navy, or when <requested><* ASKED *> by an individual to whom such honors and ceremonies are due.<* 34*> No salute shall be fired<* PASSIVE VOICE *> in honor of any nation or of any official of any nation not [formally] recognized by the Government of the United States;<* 27*><* TOO MANY (6) PREPOSITIONS *> and, except as authorized by the Secretary of the Navy, no <* DOUBLE NEGATIVE *> other honors or ceremonies prescribed in these regulations shall be rendered <* GAVE/GIVEN / MADE *><* PASSIVE VOICE *> or exchanged with such nations or officials.<* 29*> Should the required <* NEEDED *> number or frequency of international salutes, official visits, or other honors and ceremonies be deemed <* THOUGHT / CONSIDERED *><* PASSIVE VOICE *> excessive, the senior officer present in the United States naval service may make [alterations], subject to the requirements of international [courtesy], such modifications <* CHANGES *> as circumstances [warrant] and as may be agreed <* PASSIVE VOICE *> upon with responsible officials or the senior officer present of the nation involved.<* 62*><* LIST? *> The National Anthem of the United States, "The Star Spangled Banner", when played by a naval band shall be played<* PASSIVE VOICE *> in its [entirety] as written and as prescribed in the official United States Navy Band arrangement which is designated <* SPECIFIED / CHOSEN *><* PASSIVE VOICE *> as the official Department of Defense arrangement.<* 46*> The playing of the National Anthem of the United States, or of any other country, as a part of a [medley] is prohibited.<* 23*><* PASSIVE VOICE *> When a foreign national anthem is prescribed<* PASSIVE VOICE *> in connection with <* WITH / ABOUT *>honors, and it is considered<* PASSIVE VOICE *> appropriate <* PROPER / RIGHT *> to perform the National Anthem of the United States therewith, <* WITH *> the National Anthem of the United States shall be performed<* PASSIVE VOICE *> last.<* 37*> On other occasions when a foreign national anthem (or anthems) is performed,<* PASSIVE VOICE *> the National Anthem of the United States will be performed<* PASSIVE VOICE *> last, except when performed in conjunction with <* WITH / FOR *> Morning Colors.<* 31*> Whenever the National Anthem is played,<* PASSIVE VOICE *> all naval service personnel not in formation shall stand at attention and face the national ensign; <* 23*> but in the event that <* IF *>the national ensign is not being displayed,<* PASSIVE VOICE *> they shall face the souRce of the music. When covered they shall come to the salute at the first note of the anthem; <* TOO MANY (3) PREPOSITIONS *> and shall remain <* STAY *> at the salute until the last note of the anthem.<* TOO MANY (3) PREPOSITIONS *> Persons in formation are brought<* PASSIVE VOICE *> to order arms or called to attention as appropriate. <* PROPER / RIGHT *> <* TOO MANY (3) PREPOSITIONS *> The formation commander shall face in the direction of <* DIRECTING *>the ensign or in the absence of the ensign shall face in the direction of <* DIRECTING *>the music and shall render <* GIVE / MAKE *> the appropriate <* PROPER / RIGHT *> salute for his unit.<* 35*><* TOO MANY (7) PREPOSITIONS *> Persons in formation participating <* TAKING PART *> in a ceremony shall, on command, follow the procedure prescribed for the ceremony.<* TOO MANY (4) PREPOSITIONS *> Persons in vehicles or in boats shall follow the procedure prescribed for such persons during colors;<* TOO MANY (4) PREPOSITIONS *> persons in civilian clothes shall comply with the rules and customs

established <* SET UP / PROVED *> for civilians.
<* TOO MANY (3) PREPOSITIONS *> The same marks of respect prescribed during the playing of the National Anthem shall be shown<* PASSIVE VOICE *> during the playing of a foreign national anthem.<* 24*>
<* TOO MANY (5) PREPOSITIONS *> The [ceremonial] hoisting and lowering of the national ensign at 0800 and sunset at a naval command ashore or aboard a ship of the Navy not under way shall be known<* PASSIVE VOICE *> as Morning Colors and Evening Colors, [respectively], and shall be carried <* PASSIVE VOICE *> out as prescribed in this article.<* 48*> The guard of the day and the bands shall be [paraded] in the vicinity of the the point of hoist of the ensign.<* 23*><* TOO MANY (5) PREPOSITIONS *> "Attention" shall be sounded,<* PASSIVE VOICE *> followed by the playing of the National Anthem by the band. <* TOO MANY (3) PREPOSITIONS *> At Morning Colors, the ensign shall be started<* PASSIVE VOICE *> up at the [beginnning] of the music and hoisted smartly to the peak or truck.<* 23*> At Evening Colors, the ensign shall be started<* PASSIVE VOICE *> from the peak or truck at the beginning of the music and the lowering so regulated as to <* ABOUT *>be completed<* PASSIVE VOICE *> at the last note.<* 32*>
<* TOO MANY (6) PREPOSITIONS *> 1 It is the responsibility of transferring activities to ensure <* MAKE SURE *> that members [acquire] obligated <* BOUND / COMPELLED *><* PASSIVE VOICE *> service necessary for tour length selected by the member.<* 23*><* TOO MANY (5) PREPOSITIONS *> If, at the time of transfer, a member is [undecided] as to <* ABOUT *>which tour [(accompanied/all] others) [he/she] desires, <* WANTS *> sufficient <* ENOUGH *> obligated <* BOUND / COMPELLED *> service to complete the "all others" tour for the area regardless of the member's pay

grade or length of service, personnel ordered to an overseas activity [(land-based] or afloat) shall have sufficient <* ENOUGH *> obligated <* BOUND / COMPELLED *> service to ensure <* MAKE SURE *> completion of the appropriate <* PROPER / RIGHT *> accompanied <* WENT WITH *> tour prescribed for the area to which ordered prior to <* BEFORE *> execution of <* EXECUTING *> orders. <* 74*> <* TOO MANY (16) PREPOSITIONS *> [Attainment] of obligated <* BOUND / COMPELLED *> service through [actual] [reenlistment/extension] of enlistment is required. <* NEEDED *> <* PASSIVE VOICE *> <* TOO MANY (3) PREPOSITIONS *> Page 13 entry for [attainment] of obligated <* BOUND / COMPELLED *> service is prohibited. <* PASSIVE VOICE *> Personnel approaching fleet [reserve/retirement] eligibility. Personnel who have completed 15 or more years active duty for the period of time required <* NEEDED *> to complete the applicable tour prescribed for the overseas area to which assigned. <* 29*> <* TOO MANY (6) PREPOSITIONS *> Transfer to the Fleet Reserve or Retired List will not normally <* TRY TO AVOID *> be authorized <* PASSIVE VOICE *> prior to <* BEFORE *> completion of the prescribed overseas tour. Personnel approaching retirement eligibility are cautioned <* PASSIVE VOICE *> of the fact that the requirement to complete the applicable tour for the overseas area may [disallow] their eligibility to request <* ASK *> a [twilight] tour. <* 30*> Personnel (other than CT, OT, RM, and enlisted women in those ratings listed in Article 3.181) will not normally <* TRY TO AVOID *> be [involuntarily] required <* NEEDED *> <* PASSIVE VOICE *> to serve consecutive overseas tours unless Navy [requiremnts] (billet [priorities)] direct such action. <* 35*> Personnel assigned consecutive overseas tours

```
                                                            PAGE   5

as a result of <* BECAUSE / EVEN THOUGH *> [voluntary] action will be
required <* NEEDED *> <* PASSIVE VOICE *> to serve the
appropriate <* PROPER / RIGHT *> [accompanied/all] others tour length.
<* PARAGRAPH TOO LONG ( 33 SENTENCES WITH  881 WORDS ) *>
<*  3.0% PERSONAL SENTENCES *>
```

FINAL ANALYSIS

------------------ READABILITY RESULTS ------------------

Number of Sentences	Number of Words	Number of Syllables
33	881	1509

Avg. Number of Words per Sentence	Avg. Number of Syllables per Word
26.69	1.71

Percent of Uncommon Words	Percent of Long Sentences
3.06	60.60

GRADE LEVEL (Based on DoD Readability Standard) = 15.03

```
-------------------        UNCOMMON WORDS        ------------------
WORD                    FREQ          WORD                    FREQ
Attainment                1           involuntarily             1
accompanied/all           2           land-based                1
acquire                   1           medley                    1
actual                    1           paraded                   1
alterations               1           priorities                1
attainment                1           reenlistment/extensi      1
beginnning                1           requiremnts               1
ceremonial                1           reserve/retirement        1
courtesy                  1           respectively              1
disallow                  1           twilight                  1
entirety                  1           undecided                 1
formally                  1           voluntary                 1
he/she                    1           warrant                   1
```

------------------ UNCOMMON WORDS ------------------

WORD	FREQ	WORD	FREQ
Attainment	1	involuntarily	1
accompanied/all	2	land-based	1
acquire	1	medley	1
actual	1	paraded	1
alterations	1	priorities	1
attainment	1	reenlistment/extensi	1
beginnning	1	requiremnts	1
ceremonial	1	reserve/retirement	1
courtesy	1	respectively	1
disallow	1	twilight	1
entirety	1	undecided	1
formally	1	voluntary	1
he/she	1	warrant	1

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